Ultrafine particle number flux over and in a deciduous forest

Ultrafine particles (UFP, particles with diameters (Dp) < 100 nm) play a key role in climate forcing; thus, there is interest in improved understanding of atmosphere-surface exchange of these particles. Long-term flux measurements from a deciduous forest in the Midwestern USA (taken during December 2012 to May 2014) show that although a substantial fraction of the data period indicates upward fluxes of UFP, on average, the forest is a net sink for UFP during both leaf-active and leaf-off periods. The overall mean above-canopy UFP number flux computed from this large data set is \(-4.90 \times 10^6\) m\(^{-2}\) s\(^{-1}\) which re-emphasizes the importance of these ecosystems to UFP removal from the atmosphere. Although there remain major challenges to accurate estimation of the UFP number flux and in drawing inferences regarding the actual surface exchange from measurements taken above the canopy, the above the canopy mean flux is shown to be downward throughout the day (except at 23.00) with largest-magnitude fluxes during the middle of the day. On average, nearly three quarters of the total UFP capture by this ecosystem occurs at the canopy. This fraction increases to 78% during the leaf-active period, but the over-storey remains dominant over the subcanopy even during the leaf-off period.
Elements of extreme wind modeling for hurricanes
The report summarizes characteristics of the winds associated with Tropical Cyclones (Hurricanes, Typhoons). It has been conducted by the authors across several years, from 2012-2015, to identify the processes and aspects that one should consider when building at useful computer support system for evaluation hurricane extreme wind conditions for a given offshore site. It was initiated by a grant from DNV that has as well been represented by one of the authors in this report. Finally, we wish to emphasize the debt of this report to an earlier work at the DTU-Wind Energy Department on “Extreme winds in the North Pacific” (Ott, 2006).

Full-Scale Spectrum of Boundary-Layer Winds
Extensive mean meteorological data and high frequency sonic anemometer data from two sites in Denmark, one coastal onshore and one offshore, have been used to study the full-scale spectrum of boundary-layer winds, over frequencies f from about 1 yr⁻¹ to 10 Hz. 10-min cup anemometer data are used to estimate the spectrum from about 1 yr⁻¹ to 0.05 min⁻¹; in addition, using 20-Hz sonic anemometer data, an ensemble of 1-day spectra covering the range 1 day⁻¹ to 10 Hz has been calculated. The overlapping region in these two measured spectra is in good agreement. Classical topics regarding the various spectral ranges, including the spectral gap, are revisited. Following the seasonal peak at 1 yr⁻¹, the frequency spectrum f S( f ) increases with f +1 and gradually reaches a peak at about 0.2 day⁻¹. From this peak to about 1 hr⁻¹, the spectrum f S( f ) decreases with frequency with a −2 slope, followed by a −2/3 slope, which can be described by f S( f ) = a1 f −2/3 + a2 f −2, ending in the frequency range for which the debate on the spectral gap is ongoing. It is shown here that the spectral gap exists and can be modelled. The linear composition of the horizontal wind variation from the mesoscale and microscale gives the observed spectrum in the gap range, leading to a suggestion that mesoscale and microscale processes are uncorrelated. Depending on the relative strength of the two processes, the gap may be deep or shallow, visible or invisible. Generally, the depth of the gap decreases with height. In the low frequency region of the gap, the mesoscale spectrum shows a two-dimensional isotropic nature; in the high frequency region, the classical three-dimensional boundary-layer turbulence is evident. We also provide the cospectrum of the horizontal and vertical components, and the power spectra of the three velocity components over a wide range from 1 day⁻¹ to 10 Hz, which is useful in determining the necessary sample duration when measuring turbulence statistics in the boundary layer.
The model chain and the full scale spectrum of the boundary layer wind

In the European Union project: “The New European Wind Atlas [1, 2]” the model chain is a central research area. In a recent study [3] we looked into the resolution issue of linking the mesoscale models with the turbulence models by performing spectral analysis on extensive mean meteorological data and high frequency sonic anemometer data from the 100m meteorological mast at Danish test station Høvsøre. Datasets from the offshore wind farm Horns Rev were also analyzed. The conclusions from the analysis are given below. In the present study we complement and extend the analysis using a new dataset from the test station Østerild.

General information
State: Published
Organisations: Department of Wind Energy, Resource Assessment Modelling
Authors: Larsén, X. G. (Intern), Lundtang Petersen, E. (Intern), Larsen, S. E. (Intern), Kristensen, L. (Intern)
Estimating surface fluxes using eddy covariance and numerical ogive optimization

Estimating representative surface fluxes using eddy covariance leads invariably to questions concerning inclusion or exclusion of low-frequency flux contributions. For studies where fluxes are linked to local physical parameters and up-scaled through numerical modelling efforts, low-frequency contributions interfere with our ability to isolate local biogeochemical processes of interest, as represented by turbulent fluxes. No method currently exists to disentangle low-frequency contributions on flux estimates. Here, we present a novel comprehensive numerical scheme to identify and separate out low-frequency contributions to vertical turbulent surface fluxes. For high flux rates (|Sensible heat flux| > 40Wm$^{-2}$, |latent heat flux| > 20Wm$^{-2}$ and |CO2 flux| > 100 mmolm$^{-2}$ d$^{-1}$ we found that the average relative difference between fluxes estimated by ogive optimization and the conventional method was low (5–20 %) suggesting negligible low-frequency influence and that both methods capture the turbulent fluxes equally well. For flux rates below these thresholds, however, the average relative difference between flux estimates was found to be very high (23–98 %) suggesting non-negligible low-frequency influence and that the conventional method fails in separating low-frequency influences from the turbulent fluxes. Hence, the ogive optimization method is an appropriate method of flux analysis, particularly in low-flux environments.
Lectures in Micro Meteorology
This report contains the notes from my lectures on Micro scale meteorology at the Geophysics Department of the Niels Bohr Institute of Copenhagen University. In the period 1993-2012, I was responsible for this course at the University. At the start of the course, I decided that the text books available in meteorology at that time did not include enough of the special flavor of micro meteorology that characterized the work of the meteorology group at Risø (presently of the Institute of wind energy of the Danish Technical University). This work was focused on Boundary layer flows and turbulence and was often aimed at applications like wind energy, wind loads, dispersion and deposition, air-sea exchange and air-land exchange, as well as flow response to surface inhomogeneity.

The course, dimensioned to 60 hours, was generally structured in the first year, based on copies of papers and copies of the overheads used for presentation. But it gradually filled out in the following years, as with power points and the typed manuscripts constituting this reports. Most writing was finalized within the first 10 years of the course, meaning most references are somewhat dated by now, although I have not resisted adding more recent work, if ongoing projects made it easy. In the course I have tried to present the details of the basic material, trying to avoid the well known sentence of “It is easily seen—”. But I have been less thorough and pedagogical, when presenting the more illustrative material.

The original report includes pages of course material, directly copied from other people’s publications, used during the lectures. Therefore this report is an internal report only. In the present report these copied pages have en removed in respect for the rights of the original authors.

General information
State: Published
Organisations: Department of Wind Energy, Meteorology
Authors: Larsen, S. E. (Intern)
Number of pages: 275
Publication date: 2015

Publication information
Publisher: DTU Wind Energy
Original language: English

Series: DTU Wind Energy E
Number: 0075
Main Research Area: Technical/natural sciences
DTU Wind Energy E-0075, DTU Wind Energy E-75, DTU-Wind-Energy-0075
Electronic versions:
Lectures_Micro_Meteorology20150528.pdf
Source: PublicationPreSubmission
Source-ID: 106132573
Publication: Education › Book – Annual report year: 2015

Offshore Wind Turbine Foundation Design
Offshore wind energy has greatly matured during the last decade with an annually installed energy capacity exceeding 1 GW. A key factor for further large-scale development of offshore wind energy is a cost of energy reduction. Given for example the drop in oil price since summer 2014, which has continued into 2015 it is even more important to drive down the costs of energy for renewable energy sources such as offshore wind energy in order to arrive at a sustainable future on a global level. Cost of energy reductions for offshore wind turbines (OWTs) can be achieved by optimizations on different disciplines such as the structural design, fabrication and installation. In all cases it is very important to carefully assess the mutual influences of the different disciplines and the overall costs of energy. Different subsystems of the OWT
such as the foundation or control system require on one hand the involvement of specialists with different technical backgrounds and on the other hand considerations of the whole OWT system and the mutual influences of the subsystems. For example, accurate design loads are essential for cost-efficient and safe foundation designs. However, such accurate loads can only be established under proper consideration of the dynamics of the whole system requiring adequate models of the individual subsystems and environment. This is due to the fact that OWTs introduce complex interactions between individual subsystems and the environment. Hence, a thorough understanding of the overall OWT system is essential for the establishment of accurate design loads and the subsequent optimization of individual subsystems as part of an overall optimization. In the present thesis, the design of OWT foundations is approached from the perspective of a foundation designer starting with a general introduction of the design process. The complexity of this particular field is emphasized by consideration of a variety of topics covering different foundations types and aspects throughout the design process. Focus is on structural modelling, environmental modelling and load calculations as already established in literature and design practice. Methods and approaches of the selected topics are assessed with respect to their influences on the dynamics of the system and design loads in order to evaluate their applicability in the design process. The investigations comprise new as well as existing methods and approaches. In design practice, the modelling of the structure as well as of the environment is often based on simplifications. For the environmental conditions, this is e.g. due to the fact that the combined, directional wind and wave climate consists of an impractically large amount of combinations of met-ocean parameters for load calculations purposes, which is consequently handled by application of condensed wind-wave correlations. A new damage equivalent wind-wave correlation method is introduced in the present thesis and assessed against alternative methods. It is shown that only the new method allows for a damage equivalent preservation of long-term, full wave climates throughout the entire support structure, while the alternative methods may introduce severe errors due to an insufficient consideration of the dynamics throughout the whole system. In the detailed design process, condensed wind-wave correlations are typically subjected to sequential load calculation approaches in an iterative and collaborative process between foundation designer and wind turbine manufacturer. Involvement of these different design parties may be motivated by various aspects such as introduction of state-of-the-art design expertise and tools from individual fields of technology. However, the collaboration requires special load calculation methods and simplifications of individual subsystem models in the design process due to different tools, expertise and design responsibilities of both parties. It is shown in the present thesis, how various aspects, such as the load calculation approach or the foundation model in the aeroelastic analysis, influence the dynamics and may thereby potentially introduce design load errors on the conservative or non-conservative side if not considered adequately. Different types of OWT foundations have individual characteristics and show differences in the interactions with other subsystems leading to varying requirements regarding structural modelling, environmental modelling and load calculations in the design process. Hence, it is important to carefully assess particular aspects in the specific context of OWTs and individual foundation type characteristics. For example, modelling and load calculation approaches for jacket type foundations of OWTs are often inherited from existing experiences of monopile type foundations or from their counterparts in the offshore oil & gas industry. However, severe errors may be introduced due to different dynamic characteristics and loading conditions in case the inherited approaches are not adjusted adequately for the individual requirements of jacket type foundations for OWTs. For example, quasi-static foundation load calculation approaches as often applied for jacket foundations of substations or jackets from the offshore oil & gas industry may introduce severe errors when applied to jacket foundations for OWTs e.g. due to differences in the loading conditions. However, in case of monopiles for OWTs quasi-static foundation load calculation approaches are applicable despite the fact that loading conditions are similar to their jacket counterparts. This is due to differences in the structural dynamic characteristics, e.g. the pronounced coupling of local foundation modes with higher global modes for jacket foundations of OWTs do not occur for monopiles. In the present thesis, the investigations cover monopile and jacket type foundations as representatives of individual characteristics and individual requirements of different bottom-mounted foundation types for OWTs. The present thesis is complemented by various aspects from the industrial work of the author emphasizing the industrial character of the PhD project.

General information
State: Published
Authors: Passon, P. (Ekstern), Branner, K. (Intern), Larsen, S. E. (Intern), Hvenekær Rasmussen, J. (Ekstern)
Number of pages: 301
Publication date: 2015

Publication information
Publisher: DTU Wind Energy
ISBN (Electronic): 978-87-93278-23-3
Original language: English

Series: DTU Wind Energy PhD
Number: 0044(EN)
Main Research Area: Technical/natural sciences
Electronic versions:
Offshore_Wind_Turbine_Foundation_Design.pdf
Publication: Research › Ph.D. thesis – Annual report year: 2016
Remote Sensing for Wind Energy
The Remote Sensing in Wind Energy report provides a description of several topics and it is our hope that students and others interested will learn from it. The idea behind it began in year 2008 at DTU Wind Energy (formerly Risø) during the first PhD Summer School: Remote Sensing in Wind Energy. Thus it is closely linked to the PhD Summer Schools where state-of-the-art is presented during the lecture sessions. The advantage of the report is to supplement with in-depth, article style information. Thus we strive to provide link from the lectures, field demonstrations, and hands-on exercises to theory. The report will allow alumni to trace back details after the course and benefit from the collection of information. This is the fourth edition of the report and we warmly acknowledge all the contributing authors for their work in the writing of the chapters, and we also acknowledge all our colleagues in the Meteorology and Test and Measurements Sections from DTU Wind Energy in the PhD Summer Schools. We hope to continue adding more topics in future editions and to update and improve as necessary, to provide a truly state-of-the-art ‘guideline’ available for people involved in Remote Sensing in Wind Energy.

General information
State: Published
Organisations: Department of Wind Energy, Meteorology, Test and Measurements, Wind Energy Division, Wind Turbines, University of Suttgart, Leosphere, Karlsruhe Institute of Technology, ZephIR Ltd.
Number of pages: 260
Publication date: 2015

Publication information
Publisher: DTU Wind Energy
ISBN (Electronic): 978-87-93278-34-9
Original language: English
Series: DTU Wind Energy E
Number: 0084(EN)
Main Research Area: Technical/natural sciences
Electronic versions:
DTU_Wind_Energy_Report_E_0084.pdf
Publication: Research › Report – Annual report year: 2015

The full scale spectrum of the boundary layer wind

General information
State: Published
Organisations: Department of Wind Energy, Meteorology
Authors: Larsén, X. G. (Intern), Larsen, S. E. (Intern), Lundtang Petersen, E. (Intern)
Publication date: 2015
Main Research Area: Technical/natural sciences

Publication information
Journal: EMS Annual Meeting Abstracts
Volume: 12
Article number: EMS2015-127
Original language: English
Electronic versions:
The_full_scale_spectrum.pdf

Bibliographical note
© Author(s) 2015. CC Attribution 3.0 License.
Source: PublicationPreSubmission
Source-ID: 117647916
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 2015
Concept Specifications/Prerequisites for DeepWind Deliverable D8.1

The work is a result of the contributions within the DeepWind project which is supported by the European Commission, Grant 256769 FP7 Energy 2010 - Future emerging technologies, and by the DeepWind beneficiaries: DTU(DK), AAU(DK), TUDELFT(NL), TUTRENTO(I), DHI(DK), SINTEF(N), MARINTEK(N), MARIN(NL), NREL(USA), STATOIL(N), VESTAS(DK) and NENUPHAR(F). The report discuss the design considerations for offshore wind turbines, both in general and specifically for Darrieus-type floating turbines, as is the focus of the DeepWind project. The project is considered in a North Sea environment, notably close to the Norwegian South West coast, at the site of the Hywind demonstration project. The report summarises standard characteristics for the North Sea and the Baltic, formulated by earlier EU projects, and compare these to the conditions met at the project site. Comparisons with existing measured met-ocean data are carried out. Similarly scaling considerations from the earlier projects are presented and seen in relation to and contrasted to the needs of the current project.

General information
State: Published
Organisations: Department of Electrical Engineering, Department of Wind Energy, Test and Measurements, Fluid Mechanics, Meteorology, Aeroelastic Design
Authors: Schmidt Paulsen, U. (Intern), Schløer, S. (Intern), Larsén, X. G. (Intern), Hahmann, A. N. (Intern), Larsen, S. E. (Intern), Larsen, T. J. (Intern), Svenstrup Petersen, O. (Ekstern)
Number of pages: 129
Publication date: 2014

Publication information
Publisher: DTU Wind Energy
ISBN (Print): 978-87-92896-98-8
Original language: English
Main Research Area: Technical/natural sciences
Source: PublicationPreSubmission
Source-ID: 103263830
Publication: Research - peer-review › Report – Annual report year: 2014

Coupling Atmosphere and Waves for Coastal Wind Turbine Design
Offshore wind farms in coastal areas are considered by the Danish government to contribute to the goal of having 50% of the energy consumption from renewable sources by 2025. Therefore, new coastal developments will take place in Danish areas. The impact of waves on atmosphere is most often described by roughness length, which is typically determined by the Charnock formulation. This simplification in many atmospheric models has been shown to bring bias in the estimation of the extreme wind. Some wave-dependent formulations have been reported to overestimate the drag coefficient and roughness, but new roughness formulations have been proposed to better estimate wave-wind interactions according to observations. In the present work, an assessment of several roughness descriptions is performed, and implications for coastal wind and wave modelling are studied. An atmospheric (WRF) and spectral wave model (MIKE 21 SW) are implemented for the North Sea in order to consider wave effects on roughness. The objective is to see the reaction of an atmospheric model to the water surface description through offline coupling. A comparison with three simplified roughness formulations embedded in WRF showed a 50% variation in roughness and 20% in wind, with the better formulation for wind leading degraded predictions of roughness compared with observations. The large estimates of roughness when using a 3rd generation wave model are evident offshore, while a roughness formulation based on wave age produces more realistic values. However, at a coastal site, both estimates were within the same range. The impact of roughness on the wave model is discussed in terms of an idealized case for fetch-limited wave growth.

General information
State: Published
Organisations: Department of Wind Energy, Meteorology
Authors: Bolanos, R. (Ekstern), Larsén, X. G. (Intern), Petersen, O. S. (Ekstern), Nielsen, J. R. (Intern), Kelly, M. C. (Intern), Kofoed-Hansen, H. (Ekstern), Du, J. (Intern), Sørensen, O. R. (Ekstern), Larsen, S. E. (Intern), Hahmann, A. N. (Intern), Badger, M. (Intern)
Publication date: 2014

Host publication information
Title of host publication: Proceedings of 34th Conference on Coastal Engineering
Publisher: Coastal Engineering Research Council
Editor: Lynett, P. J.
Article number: management.33
ISBN (Electronic): 978-0-9896611-2-6
Series: Coastal Engineering Proceedings
Number: 34
Community building and cross-border collaboration through online courses in wind energy

A new online course in wind energy has been developed by the Technical University of Denmark (DTU) as part of the EU-funded project Virtual Campus Hub (FP7 RI-283746, www.virtualcampushub.eu). The course builds upon a successful physical course, which has been offered to the wind energy industry for more than 20 years. The course objectives are:

1. To teach participants to use the Wind Atlas Analysis and Application Program (WAsP) – the wind power industry-standard PC-software for wind resource assessment and siting of wind turbines and wind farms, with more than 4,000 licenses sold in more than 100 countries.

2. To provide participants with enough theory about wind power meteorology to avoid the major pitfalls in wind resource assessment.

This paper describes the design and implementation of the online course in WAsP and the most important learning points gained from two test runs of the course. The course is then placed in the larger context of project Virtual Campus Hub where participants from four technical universities in Europe collaborate in a virtual framework utilizing state-of-the-art European E-infrastructure.
Cross-spectra over the sea from observations and mesoscale modelling

Cospectra and quadrature spectra are calculated for six pairs of tall offshore measurement masts near the Horns Rev I wind farm in the Danish North Sea and the Nysted wind farm in the Baltic sea. The mast-pairs are separated from one another by horizontal distances of 2.13–12.4 km. Cospectra and quadrature spectra for the two sites are classified in terms of the angle between the mean wind direction and the line connecting each pair of masts. The frequency axes of the spectra are normalized to remove the effect of mean wind speed and separation distance. Results indicate a larger contribution to the quadrature spectrum for flow from the sea than for flow from the land, and the patterns in the spectra are clearer and better defined for Horns Rev I (which has a long uninterrupted sea-fetch from the west) than for Nysted (which is surrounded by a more complicated coastline). The analysis is replicated based on 3-month simulations using the weather research and forecasting (WRF) numerical model with a horizontal grid spacing of 2 km. For the sea-fetch directions, good agreement in spectral properties between the model and observations is found. Analytical expressions based on the properties of the cross-correlation function and an exponentially decaying coherence function are fitted to the normalized cospectra and quadrature spectra. The expressions are shown to be a good fit to the spectra calculated from the WRF simulations and to the observed spectra for directions with a long sea-fetch, which suggests that to a good approximation, the average cospectra and quadrature spectra over the sea can be written as functions of frequency, mean wind speed, separation distance and the angle between the wind direction and the orientation of the masts.

General information

State: Published
Organisations: Department of Wind Energy, Meteorology, Wind Energy Systems
Authors: Vincent, C. L. (Intern), Larsen, X. G. (Intern), Larsen, S. E. (Intern), Sørensen, P. E. (Intern)
Pages: 297–318
Publication date: 2013
Main Research Area: Technical/natural sciences

Publication information

Journal: Boundary-Layer Meteorology
Volume: 146
ISSN (Print): 0006-8314
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.726 SNIP 1.187
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.805 SNIP 1.756
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.765 SNIP 1.634
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.959 SNIP 1.626
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.409 SNIP 1.365
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.628 SNIP 1.211
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.986 SNIP 1.292
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.871 SNIP 1.631
Scopus rating (2007): SJR 1.597 SNIP 1.468
Scopus rating (2006): SJR 1.628 SNIP 1.385
Scopus rating (2005): SJR 1.182 SNIP 1.263
Scopus rating (2004): SJR 2.204 SNIP 1.83
Scopus rating (2003): SJR 1.945 SNIP 1.426
Estimation of wind power potential of the Gulf of Finland

General information
State: Published
Organisations: Department of Wind Energy, Meteorology
Authors: Monzikova, A. K. (Ekstern), Kudryavtsev, V. (Ekstern), Larsen, S. E. (Intern), Chapron, B. (Ekstern)
Pages: 116-133
Publication date: 2013
Main Research Area: Technical/natural sciences

Publication information
Journal: Proceedings of the Russian State Hydrometeorological University
Issue number: 30
ISSN (Print): 2074-2762
Original language: Russian
Publication: Research - peer-review › Journal article – Annual report year: 2014

Online training in WAsP for wind energy professionals
An online course in wind energy resource assessment has been developed by the Technical University of Denmark (DTU). The course builds upon a successful physical course, which the Department of Wind Energy at DTU has offered to the wind energy industry for more than 20 years. The course objectives are:
1. To teach participants to use the Wind Atlas Analysis and Application Program (WAsP)
2. To provide participants with enough theory about wind power meteorology to avoid the major pitfalls related to wind resource assessment.
WAsP is the wind power industry-standard PC-software for wind resource assessment and siting of wind turbines and wind farms, with more than 4,000 licenses sold in more than 100 countries.

General information
State: Published
Organisations: Department of Wind Energy, Meteorology, Wind Energy Systems, Expect Learning
Number of pages: 4
Publication date: 2013

Host publication information
Title of host publication: Proceedings of the Conference on Wind Energy Science and Technology (RUZGEM) 2013
Publisher: METU Center for Wind Energy
Main Research Area: Technical/natural sciences
Electronic versions: ONLINE_TRAINING_IN_WASP.pdf
Links:
http://www.ruzgem.org/
Source: dtu
Source-ID: u::8886
Publication: Research - peer-review › Article in proceedings – Annual report year: 2013
**Remote Sensing for Wind Energy**

The Remote Sensing in Wind Energy report provides a description of several topics and it is our hope that students and others interested will learn from it. The idea behind it began in year 2008 at DTU Wind Energy (formerly Risø) during the first PhD Summer School: Remote Sensing in Wind Energy. Thus it is closely linked to the PhD Summer Schools where state-of-the-art is presented during the lecture sessions. The advantage of the report is to supplement with in-depth, article style information. Thus we strive to provide link from the lectures, field demonstrations, and hands-on exercises to theory. The report will allow alumni to trace back details after the course and benefit from the collection of information. This is the third edition of the report (first externally available), after very successful and demanded first two, and we warmly acknowledging all the contributing authors for their work in the writing of the chapters, and we also acknowledge all our colleagues in the Meteorology and Test and Measurements Sections from DTU Wind Energy in the PhD Summer Schools. We hope to continue adding more topics in future editions and to update and improve as necessary, to provide a truly state-of-the-art 'guideline' available for people involved in Remote Sensing in Wind Energy.

**General information**

State: Published

Organisations: Department of Wind Energy, Meteorology, Test and Measurements, University of Suttgart, Leosphere, University of Colorado, Karlsruhe Institute of Technology, Zephir Ltd., National Renewable Energy Laboratory, Institute for Atmospheric Science and Climate


Number of pages: 309

Publication date: 2013

**Publication information**

Publisher: DTU Wind Energy

ISBN (Electronic): 978-87-92896-41-4

Original language: English

Series: DTU Wind Energy E

Number: 0029(EN)

Main Research Area: Technical/natural sciences


Electronic versions:

Remote_Sensing_for_Wind_Energy.pdf

Publication: Research › Report – Annual report year: 2013

**Russian coastal wind resources**

**General information**

State: Published

Organisations: Department of Wind Energy, Meteorology, Russian State Hydrometeorological University

Authors: Larsen, S. E. (Intern), Monzikov, A. (Ekstern), Kudryatsev, V. (Ekstern)

Number of pages: 1

Pages: 396

Publication date: 2013

**Host publication information**

Title of host publication: Abstracts First International Forum "Renewable Energy: Towards Raising Energy and Economic Efficiencies"

Main Research Area: Technical/natural sciences


Electronic versions:

sola_moscow.pdf

Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 2013

**Spectral structure of mesoscale winds over the water**

Standard meteorological measurements from a number of masts around two Danish offshore wind farms have been used to study the spectral structure of the mesoscale winds, including the power spectrum, the co- and quadrature spectrum and the coherence. When average conditions are considered, the power spectra show universal characteristics, in agreement with the findings in literature, including the energy amplitude and the ~5/3 spectral slope in the mesoscale
range transitioning to a slope of $-3$ for synoptic and planetary scales. The integral time-scale of the local weather is found to be useful to describe the spectral slope transition as well as the limit for application of the Taylor hypothesis. The stability parameter calculated from point measurements, the bulk Richardson number, is found insufficient to represent the various atmospheric structures that have their own spectral behaviours under different stability conditions, such as open cells and gravity waves. For stationary conditions, the mesoscale turbulence is found to bear some characteristics of two-dimensional isotropy, including (1) very minor vertical variation of spectra; (2) similar spectral behaviour for the along- and across-wind components; and (3) the along- and across-wind components at one point are not correlated. Copyright © 2012 RoyalMeteorological Society
The atmospheric boundary layer over land and sea: Focus on the off-shore Southern Baltic and Southern North Sea region

Lecture notes for a short course on the ideal atmospheric boundary layer and its characteristics for different types of real boundary layers, aiming at a discussion of the coastal conditions at the Southern Baltic and North Sea region. The notes are aimed at young scientists (e.g. PhD students) that study the physics of the atmospheric boundary layer with the purpose of applying this knowledge for remote sensing techniques within offshore wind energy.

Transmission of wave energy through an offshore wind turbine farm

The transmission of wave energy passing an offshore wind farm is studied. Three effects that can change the wave field are analysed, which is the A) energy dissipation due to drag resistance, B) wave reflection/diffraction from structures, and C) the effect of a modified wind field inside and on the lee side of the wind farm. The drag dissipation, A), is quantified by a quadratic resistance law. The effect of B) is parameterised based on 1st order potential theory. A method to find the amount of reflected and transmitted wave energy is developed based on the panel method WAMIT™ and a radiation condition at infinity. From airborne and Satellite SAR (Synthetic Aperture Radar) a model has been derived for the change of the water surface friction C) inside and on the lee side of the offshore wind farm. The effects have been implemented in a spectral wind wave model, MIKE21 SW, and a parametric study to compare the 3 different processes has been carried out. The method to study reflection/diffraction can be used for any type of offshore structure, vessel or a number of structures, as long as the assumptions for the use of potential wave theory are valid, and the effect of the modified wind field on the water surface friction is known.

© 2013 Elsevier B.V. All rights reserved.
Wave energy, Radiation condition, Offshore wind farm, Spectral wind wave model

DOIs:
10.1016/j.coastaleng.2013.08.004

Relations
Projects:
Transmission of wave energy through an offshore wind turbine farm
Source: dtu
Source-ID: u::8635
Publication: Research - peer-review › Journal article – Annual report year: 2013

WAsP online course notes: Final report

General information
State: Published
Organisations: Department of Wind Energy, Meteorology
Number of pages: 290
Publication date: 2013

Publication information
Publisher: DTU Wind Energy
Original language: English

Series: DTU Wind Energy I
Number: 0084(EN)
Main Research Area: Technical/natural sciences

Bibliographical note
Collation of offshore wind-wave dynamics: Marine Renewables Infrastructure Network for Emerging Energy Technologies D2.4

The present report constitutes the Protocol Manual for ensuring harmonisation of offshore wind and wave simulation being implemented at MaRINET facilities. Wind and wave climates for five offshore wind sites in the North Sea and the Baltic Sea have been presented in terms of probability distributions for wind speed along with a series of lumped sea states and turbulence intensity values, parameterised with respect to the wind speed. Further, extreme values for wind speed and significant wave height have been provided. Further to the wind distributions and lumped characteristics, the Weibull parameters for the wind distribution and explicit formulas for the turbulence intensity and significant wave height are provided. For the correlation of wave peak period and significant wave height, a standard formula from the IEC-61400-3 code have been found to cover the scatter in the data, although one coefficient in this formula must be decided upon by the user. Further, the value of γ, the JONSWAP peak enhancement parameter must be chosen by the user. This can be done either from an explicit formula or by the standard choices of γ=1.0 or γ=3.3. Hereby a full description of a unidirectional wind-wave climate can be constructed. If needed, this climate can be supplemented by the user with the combined directional distribution of wind and waves, either based on data or in terms of parametric studies. The scaling method proposed is the dynamic-elastic scaling, which maintains the ratios between hydrodynamic, aerodynamic, stiffness-induced and gravitational forces. This scaling preserves the Froude number for the water phase and the tip speed ratio for the rotor. The Reynolds numbers for air and water, however, are not conserved. A redesign of the model-scale blades will therefore be needed. Here the scaled thrust-curve must be matched. Further, if possible, the torque from the airfoil should be matched. This requirement, however, is difficult to achieve due to the change in lift/drag ratio at low Reynolds number. It is therefore foreseen, that the aerodynamic torque and thus produced power will not be scaled correctly. As a consequence, roll-forcing induced by the dynamic change in generator moment will not scale correctly. However, the correct scaling of rotor thrust is found to have higher priority and thus justifies the scaling choice.

An example of down-scaling of wind and wave conditions has been supplied. The example also demonstrates how the structure (a floating wind turbine) should be scaled. It is demonstrated that the proposed scaling yields modelscale results for thrust- and wave- induced motion that can be up-scaled to prototype scale with a perfect match.

Estimation des ressources éoliennes et solaires au Mali

General information
State: Published
Organisations: Department of Wind Energy, Meteorology, Department of Electrical Engineering, Center for Electric Power and Energy, Department of Management Engineering
Authors: Badger, J. (Intern), Kamissoko, F. (Ekstern), Olander Rasmussen, M. (Ekstern), Larsen, S. E. (Intern), Guidon, N. (Ekstern), Hansen, L. B. (Ekstern), Dewilde, L. (Ekstern), Nærgård, P. B. (Intern), Nørgaard, I. (Intern)
Publication date: 2012

Publication information
Publisher: UNEP Risø Centre on Energy, Climate and Sustainable Development. Department of Management Engineering. Technical University of Denmark (DTU)
Original language: French
Main Research Area: Technical/natural sciences
Electronic versions: Estimation_de_resources_eolienne_et_solaire.pdf
Estimation of wind and solar resources in Mali

General information
State: Published
Organisations: Department of Wind Energy, Meteorology, Department of Electrical Engineering, Center for Electric Power and Energy, Department of Management Engineering, UNEP Risø Centre
Authors: Badger, J. (Intern), Kamissoko, F. (Ekstern), Olander Rasmussen, M. (Ekstern), Larsen, S. E. (Intern), Guidon, N. (Ekstern), Hansen, L. B. (Ekstern), Dewilde, L. (Ekstern), Nørgård, P. B. (Intern), Nygaard, I. (Intern)
Publication date: 2012

Publication information
Publisher: UNEP Risø Centre on Energy, Climate and Sustainable Development. Department of Management Engineering. Technical University of Denmark (DTU)
Original language: English
Main Research Area: Technical/natural sciences
Electronic versions:
Estimation_of_wind_and_solar_resources.pdf
Links:
http://www.frsemali.org/reports/00 final reports/Estimation of solar and wind resources.pdf
Publication: Research › Report – Annual report year: 2013

Origin of the waves in 'A case-study of mesoscale spectra of wind and temperature, observed and simulated': Lee waves from the Norwegian mountains
This note uses SAR images, satellite cloud pictures and point measurements together with simulations using the Weather Research and Forecasting (WRF) model to identify the origin of the gravity waves over Denmark on 6 November 2006, studied recently. The wave characteristics, concerning their initiation and ending, propagation, spatial orientation and wavelength, are consistent among the different data sources. This evidence and the key wave parameters derived from the WRF simulation, including the Scorer parameter and wave tilt, all suggest that the waves are lee waves generated by uplift from the Norwegian mountains. Copyright © 2011 Royal Meteorological Society

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsén, X. G. (Intern), Larsen, S. E. (Intern), Hahmann, A. N. (Intern)
Pages: 274-279
Publication date: 2012
Main Research Area: Technical/natural sciences

Publication information
Journal: Royal Meteorological Society. Quarterly Journal
Volume: 138
Issue number: 662
ISSN (Print): 0035-9009
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 2.546 SNIP 1.364
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 5.183 SNIP 2.309
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 4.396 SNIP 2.057
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 3.635 SNIP 1.581
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 2.801 SNIP 1.327
A case study of mesoscale spectra of wind and temperature
The spectra of the zonal and meridional winds and temperature over the mesoscale range of length-scales (10−5

**General information**
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, X. G. (Intern), Larsen, S. E. (Intern), Badger, M. (Intern)
Pages: 264-274
Publication date: 2011
Main Research Area: Technical/natural sciences

**Publication information**
Journal: Royal Meteorological Society. Quarterly Journal
Volume: 137
Issue number: 654
ISSN (Print): 0035-9009
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 2.546 SNIP 1.364
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 5.183 SNIP 2.309
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 4.396 SNIP 2.057
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 3.635 SNIP 1.581
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 2.801 SNIP 1.327
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 2.503 SNIP 1.212
Meso-scale Wind Variability. Final Report

General information
State: Published
Authors: Larsen, S. E. (Intern), Larsén, X. G. (Intern), Vincent, C. L. (Intern), Sørensen, P. E. (Intern), Pinson, P. (Intern), Trombe, P. (Intern), Madsen, H. (Intern), Cutululis, N. A. (Intern)
Number of pages: 114
Publication date: 2011

Publication information
Place of publication: Roskilde
Publisher: Danmarks Tekniske Universitet, Risø Nationallaboratoriet for Bæredygtig Energi
ISBN (Print): 978-87-550-3937-7
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 1794(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Electronic versions:
ris-r-1794.pdf
Source: orbit
Source-ID: 313873
Publication: Research › Report – Annual report year: 2011

Offshore mesoscale variability

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Vincent, C. L. (Intern), Hahmann, A. N. (Intern), Badger, J. (Intern), Larsen, X. G. (Intern), Larsen, S. E. (Intern)
Publication date: 2011

Host publication information
Title of host publication: Proceedings
Publisher: European Wind Energy Association (EWEA)
Main Research Area: Technical/natural sciences
On the Nature, Theory, and Modeling of Atmospheric Planetary Boundary Layers
The gap between our modern understanding of planetary boundary layer physics and its decades-old representations in current operational atmospheric models is widening, which has stimulated this review of the current state of the art and an analysis of the immediate needs in boundary layer theory, measurements, and modeling.

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Danish Meteorological Institute, University of Zagreb, San Jose State University, Oregon State University, University of Helsinki, York University, MeteoSwiss, University of Notre Dame
Authors: Baklanov, A. A. (Ekstern), Grisogono, B. (Ekstern), Bornstein, R. (Ekstern), Mahrt, L. (Ekstern), Zilitinkevich, S. S. (Ekstern), Taylor, P. (Ekstern), Larsen, S. E. (Intern), Rotach, M. W. (Ekstern), Fernando, H. J. S. (Ekstern)
Pages: 123-128
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Volume: 92
Issue number: 2
ISSN (Print): 0003-0007
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 1.227 SNIP 0.845
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 0.987 SNIP 0.802
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 1.242 SNIP 0.713
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 1.024 SNIP 0.66
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): SJR 1.294 SNIP 0.833
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.888 SNIP 0.532
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.49 SNIP 0.786
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.04 SNIP 0.738
Scopus rating (2007): SJR 0.791 SNIP 0.831
Scopus rating (2006): SJR 0.297 SNIP 0.355
Scopus rating (2005): SJR 0.935 SNIP 0.585
Scopus rating (2004): SJR 4.557 SNIP 5.004
Scopus rating (2003): SJR 4.277 SNIP 3.001
Scopus rating (2002): SJR 5.047 SNIP 3.27
the Martian atmospheric boundary layer

The planetary boundary layer (PBL) represents the part of the atmosphere that is strongly influenced by the presence of the underlying surface and mediates the key interactions between the atmosphere and the surface. On Mars, this represents the lowest 10 km of the atmosphere during the daytime. This portion of the atmosphere is extremely important, both scientifically and operationally, because it is the region within which surface lander spacecraft must operate and also determines exchanges of heat, momentum, dust, water, and other tracers between surface and subsurface reservoirs and the free atmosphere. To date, this region of the atmosphere has been studied directly, by instrumented lander spacecraft, and from orbital remote sensing, though not to the extent that is necessary to fully constrain its character and behavior. Current data strongly suggest that as for the Earth’s PBL, classical Monin-Obukhov similarity theory applies reasonably well to the Martian PBL under most conditions, though with some intriguing differences relating to the lower atmospheric density at the Martian surface and the likely greater role of direct radiative heating of the atmosphere within the PBL itself. Most of the modeling techniques used for the PBL on Earth are also being applied to the Martian PBL, including novel uses of very high resolution large eddy simulation methods. We conclude with those aspects of the PBL that require new measurements in order to constrain models and discuss the extent to which anticipated missions to Mars in the near future will fulfill these requirements.

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Russian Academy of Sciences, University of South Florida, The Open University, Université de Versailles Saint Quentin, University of Oxford, University of Michigan, University of Helsinki, Finnish Meteorological Institute, Johns Hopkins University, Universidad Complutense de Madrid
Authors: Petrosyan, A. (Ekstern), Galperin, B. (Ekstern), Larsen, S. E. (Intern), Lewis, S. (Ekstern), Määttänen, A. (Ekstern), Read, P. (Ekstern), Renno, N. (Ekstern), Rogberg, L. (Ekstern), Savijrvi, H. (Ekstern), Siili, T. (Ekstern), Spiga, A. (Ekstern), Toigo, A. (Ekstern), Vazquez, A. (Ekstern)
Pages: RG3005
Publication date: 2011
Main Research Area: Technical/natural sciences

Publication information
Journal: Reviews of Geophysics
Volume: 49
Issue number: 3
ISSN (Print): 8755-1209
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 8.833 SNIP 5.779
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 8.792 SNIP 4.98
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 9.89 SNIP 5.643
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 11.201 SNIP 6.452
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): SJR 8.818 SNIP 5.784
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 2
Wake models developed during the Wind Shadow Project
The Wind Shadow project has developed and validated improved models for determining the wakes losses, and thereby the array efficiency of very large, closely packed wind farms. The rationale behind the project has been that the existing software has been covering these types of wind farms poorly, both with respect to the densely packed turbines and the large fetches needed to describe the collective shadow effects of one farm to the next. Further the project has developed the necessary software for the use of the models. Guidelines with recommendations for the use of the models are included in the model deliverables.

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Number of pages: 74
Publication date: 2011

Publication information
Place of publication: Roskilde
Publisher: Danmarks Tekniske Universitet, Risø Nationallaboratoriet for Bæredygtig Energi
ISBN (Print): 978-87-550-3936-0
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 1793(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Rise-R-1793, Risø-R-1793(EN)
Electronic versions:
ris-r-1793.pdf
Source: orbit
Source-ID: 313872
Publication: Research › Report – Annual report year: 2011

Atmosphere–Surface Fluxes of CO2 using Spectral Techniques
Different flux estimation techniques are compared here in order to evaluate air–sea exchange measurement methods used on moving platforms. Techniques using power spectra and cospectra to estimate fluxes are presented and applied to measurements of wind speed and sensible heat, latent heat and CO2 fluxes. Momentum and scalar fluxes are calculated from the dissipation technique utilizing the inertial subrange of the power spectra and from estimation of the cospectral amplitude, and both flux estimates are compared to covariance derived fluxes. It is shown how even data having a poor signal-to-noise ratio can be used for flux estimations.
Using modeling, satellite images and existing global datasets for rapid preliminary assessments of renewable energy resources: The case of Mali

This paper presents a novel approach to the preliminary, low-cost, national-scale mapping of wind energy, solar energy and certain categories of bio-energy resources in developing countries, using Mali as an example. The methods applied make extensive use of satellite remote sensing and meteorological mesoscale modeling. The paper presents first results from applying the methodology in Mali and discusses the appropriateness of the results obtained. It is shown that northern Mali has considerable wind energy potential, while average wind speeds in the southern part are too low to make wind
power a competitive option. Solar energy resources are shown to be abundant in all of Mali, though the highest values are found in the south. The temporal variation is relatively limited. Bio-energy resources are also concentrated in the south, but there are small pockets of high vegetation productivity in the irrigated areas of the Niger inland delta that might be interesting from a renewable energy resource perspective. Finally, the paper discusses the role that renewable energy resources might play in the energy systems of Mali, given the spatio-temporal distribution of renewable energy resources. It is argued that at the current price of about 70 US$/barrel for fossil fuels, renewable energy resources are becoming economically as well as environmentally attractive options.
Wind og vejr på Mars

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Aarhus University
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Holstein-Rathlou, C. (Ekstern)
Number of pages: 144
Pages: 122-131
Publication date: 2010

Host publication information
Title of host publication: Dansk astronomi i kikkerten
Publisher: ForlagetEpsilon.dk
Editors: Bruun, L., Pedersen, K.
ISBN (Print): 978-87-993384-0-5
Main Research Area: Technical/natural sciences
Wind power meteorology, Wind Energy
Source: orbit
Source-ID: 267706
Publication: Communication › Book chapter – Annual report year: 2010

Winds at the Phoenix landing site
Wind speeds and directions were measured on the Phoenix Lander by a mechanical anemometer, the so-called Telltale wind indicator. Analysis of images of the instrument taken with the onboard imager allowed for evaluation of wind speeds and directions. Daily characteristics of the wind data are highly turbulent behavior during midday due to daytime turbulence with more stable conditions during nighttime. From Ls ~77°–123° winds were generally ~4 m s−1 from the east, with 360° rotation during midday. From Ls ~123°–148° daytime wind speeds increased to an average of 6–10 m s−1 and were generally from the west. The highest wind speed recorded was 16 m s−1 seen on Ls ~147°. Estimates of the surface roughness height are calculated from the smearing of the Kapton part of the Telltale during image exposure due to a 3 Hz turbulence and nighttime wind variability. These estimates yield 6 ± 3 mm and 5 ± 3 mm, respectively. The Telltale wind data are used to suggest that Heimdal crater is a source of nighttime temperature fluctuations. Deviations between temperatures measured at various heights are explained as being due to winds passing over the Phoenix Lander. Events concerning sample delivery and frost formation are described and discussed. Two different mechanisms of dust lifting affecting the Phoenix site are proposed based on observations made with Mars Color Imager on Mars Reconnaissance Orbiter and the Telltale. The first is related to evaporation of the seasonal CO2 ice and is observed up to Ls ~95°. These events are not associated with increased wind speeds. The second mechanism is observed after Ls ~111° and is related to the passing of weather systems characterized by condensate clouds in orbital images and higher wind speeds as measured with the Telltale.

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Aarhus University, Texas A&M University, Malin Space Science Systems, Inc., University of Alberta, York University, D. E. Shaw Research, Max Planck Institute, University of Arizona, California Institute of Technology, University of Copenhagen
Pages: E00E18
Publication date: 2010
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Geophysical Research
Volume: 115
ISSN (Print): 0148-0227
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 2.31 SNIP 1.28
BFI (2014): BFI-level 2
Size-resolved fluxes of sub-100-nm particles over forests

Dry deposition of atmospheric particles is critically dependent on particle size and plays a key role in dictating the mass and number distributions of atmospheric particles. However, modeling dry deposition is constrained by a lack of understanding of controlling dependencies and accurate size-resolved observations. We present size-resolved particle number fluxes for sub-100-nm particle diameters (Dp) over a deciduous forest derived using eddy covariance applied to data from a fast mobility particle sizer. The size-resolved particle number fluxes in 18 diameters between 8 and 100 nm were collected during leaf-on and are statistically robust. Particle deposition velocities normalized by friction velocity (v_d+) are approximately four times smaller than comparable values for coniferous forests reported elsewhere. Comparison of the data with output from a new one-dimensional mechanistic particle deposition model designed for broadleaf forest exhibits greater accord with the measurements than two previous analytical models, but modeled v_d+ underestimate observed values by at least a factor of two for all Dp between 6 and 100 nm. When size-resolved particle deposition velocities for Dp <100 nm are normalized by friction velocity, the key controlling role of particle diffusivity is strongly manifest. On the basis of analyses of these new measurements and recently published size-resolved particle number fluxes from a conifer forest, we present working parameterizations for size-resolved particle deposition velocities over forests that could reasonably be applied in regional and global atmospheric chemistry transport models.
The Making of a Second-generation Wind Farm Efficiency Model Complex

The paper presents research to develop a model complex that takes into account the interaction between the wind farm and the atmosphere, and between closely spaced wind farms. Six models have been reviewed and developed/adapted for use in wind farm modelling, covering scales from several hundred kilometres down to the size of the individual wind turbine. Flow within wind farms is difficult to predict. The analytical and modified WAsP/park models show promise; however, these require further development/evaluation. For the flow downwind of the wind farm, several intermediate-scale models fit the available data rather well, and may be candidates for the other half of the two-model complex which we aim at building. Copyright © 2009 John Wiley & Sons, Ltd.

General information
State: Published
Organisations: Wind Turbines, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Meteorology, Fluid Mechanics, Department of Mechanical Engineering, DONG Energy A/S
Authors: Frandsen, S. T. (Intern), Ejsing Jørgensen, H. (Intern), Barthelmie, R. J. (Intern), Rathmann, O. (Intern), Badger, J. (Intern), Hansen, K. S. (Intern), Ott, S. (Intern), Rethore, P. M. (Intern), Larsen, S. E. (Intern), Jensen, L. E. (Ekstern)
Pages: 445-458
Publication date: 2009
Main Research Area: Technical/natural sciences

Publication information
Journal: Wind Energy
Volume: 12
Issue number: 5
ISSN (Print): 1095-4244
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 1.236 SNIP 2.009
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 1.378 SNIP 3.811
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 1.332 SNIP 2.598
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 1.276 SNIP 2.525
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): SJR 1.133 SNIP 2.905
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 2
A review of measurement and modelling results of particle atmosphere-surface exchange

Atmosphere-surface exchange represents one mechanism by which atmospheric particle mass and number size distributions are modified. Deposition velocities ($\upsilon(d)$) exhibit a pronounced dependence on surface type, due in part to turbulence structure (as manifest in friction velocity), with minima of approximately 0.01 and 0.2 cm s$^{-1}$ over grasslands and 0.1-1 cm s$^{-1}$ over forests. However, as noted over 20 yr ago, observations over forests generally do not support the pronounced minimum of deposition velocity ($\upsilon(d)$) for particle diameters of 0.1-2 $\mu$m as manifest in theoretical predictions. Closer agreement between models and observations is found over less-rough surfaces though those data also imply substantially higher surface collection efficiencies than were originally proposed and are manifest in current models. We review theorized dependencies for particle fluxes, describe and critique model approaches and innovations in experimental approaches, and synthesize common conclusions of experimental and modelling studies. We end by proposing a number of research avenues that should be pursued in to facilitate further insights and development of improved numerical models of atmospheric particles.
Particle fluxes above forests: Observations, methodological considerations and method comparisons

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Intern), Larsen, S. E. (Intern), Sørensen, L. L. (Intern), Barthelmie, R. J. (Intern)
Pages: 667-678
Publication date: 2008
Main Research Area: Technical/natural sciences

Publication information
Journal: Environmental Pollution
Volume: 152
Issue number: 3
ISSN (Print): 0269-7491
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 2.045 SNIP 1.608
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 2.014 SNIP 2.003
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 1.985 SNIP 1.951

Original language: English
DOIs:
10.1111/j.1600-0889.2007.00298.x
Source: orbit
Source-ID: 223198
Publication: Research - peer-review › Journal article – Annual report year: 2008
Renewable energy resources in Mali - preliminary mapping

General information
State: Published
Organisations: UNEP Risoe Centre on Energy, Climate and Sustainable Development (URC), Systems Analysis Division, Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Nygaard, I. (Intern), Badger, J. (Intern), Larsen, S. E. (Intern), Rasmussen, K. (Ekstern), Nielsen, T. T. (Ekstern), Hansen, L. B. (Ekstern), Mariko, A. (Ekstern), Togola, I. (Ekstern)
Number of pages: 68
Publication date: 2008

Ressources énergétiques renouvelables du Mali - cartographie préliminaire

General information
State: Published
Organisations: UNEP Risoe Centre on Energy, Climate and Sustainable Development (URC), Systems Analysis Division, Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Nygaard, I. (Intern), Badger, J. (Intern), Larsen, S. E. (Intern), Rasmussen, K. (Ekstern), Nielsen, T. T. (Ekstern), Hansen, L. B. (Ekstern), Mariko, A. (Ekstern), Togola, I. (Ekstern)
Telltale wind indicator for the Mars Phoenix lander

The Telltale wind indicator is a mechanical anemometer designed to operate on the Martian surface as part of the meteorological package on the NASA Phoenix lander. It consists of a lightweight cylinder suspended by Kevlar fibers and is deflected under the action of wind. Imaging of the Telltale deflection allows the wind speed and direction to be quantified and image blur caused by its oscillations provides information about wind turbulence. The Telltale will primarily support surface operations by documenting the wind conditions to improve the efficiency of sample delivery to instruments on the lander deck. During the latter stages of the mission the Telltale investigation will focus on meteorological studies.

General information

State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Pages: 6
Publication date: 2008
Main Research Area: Technical/natural sciences
The ISSI international study team on the Martian PBL: Status report and plan

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Russian Academy of Sciences, University of South Florida, University of Bern, The Open University, University of Oxford, University of Michigan, California Institute of Technology, European Space Agency, Cornell University, University of Helsinki
Authors: Petrosyan, A. (Ekstern), Galperin, B. (Ekstern), Gundersson, K. (Ekstern), Larsen, S. E. (Intern), Lewis, S. (Ekstern), Read, P. (Ekstern), Renno, N. (Ekstern), Richardson, M. (Ekstern), Rogberg, P. (Ekstern), Savijärvi, H. (Ekstern), Seiferlin, K. (Ekstern), Siili, T. (Ekstern), Thomas, N. (Ekstern), Toigo, A. (Ekstern)
Publication date: 2008

Host publication information
Title of host publication: [Abstract book]
Publisher: Lunar and Planetary Institute
Main Research Area: Technical/natural sciences
Conference: Third International Workshop on the Mars Atmosphere: Modeling and Observations, Williamsburg, VA (US), 01/01/2008
Source-ID: 222884
Publication: Research - peer-review › Journal article – Annual report year: 2008

The making of a second-generation wind farm efficiency model-complex

General information
State: Published
Organisations: Wind Turbines, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Meteorology
Authors: Frandsen, S. T. (Intern), Ejsing Jørgensen, H. (Intern), Barthelmie, R. J. (Intern), Rathmann, O. (Intern), Badger, J. (Intern), Hansen, K. (Ekstern), Ott, S. (Intern), Rethore, P. M. (Intern), Larsen, S. E. (Intern), Jensen, L. (Ekstern)
Pages: 30-34
Publication date: 2008

Host publication information
Title of host publication: Scientific proceedings
Place of publication: Brussels
Publisher: European Wind Energy Conference and Exhibition
Main Research Area: Technical/natural sciences
Conference: 2008 European Wind Energy Conference and Exhibition, Brussels, Belgium, 31/03/2008 - 31/03/2008
Source-ID: 223069
Publication: Research - peer-review › Article in proceedings – Annual report year: 2008

Upward fluxes of particles over forests: when, where, why?

General information
A CFD model of the wake of an offshore wind farm: Using a prescribed wake inflow

General information
State: Published
Organisations: Aeroelastic Design, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Wind Turbines, Meteorology
Authors: Réthoré, P. (Ekstern), Bechmann, A. (Intern), Sørensen, N. N. (Intern), Frandsen, S. T. (Intern), Mann, J. (Intern), Ejsing Jørgensen, H. (Intern), Rathmann, O. (Intern), Larsen, S. E. (Intern)
Pages: 7 p.
Air-sea exchange of CO2 and particles along the Galathea route, a cruise around the world

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Test and Measurements
Authors: Sørensen, L. L. (Intern), Christiansen, M. B. (Intern), Lund, S. W. (Intern), Christensen, L. (Intern), Nissen, J. N. (Intern), Pryor, S. (Intern), Larsen, S. E. (Intern), Broe, B. (Ekstern)
Number of pages: 1
Publication date: 2007

Host publication information
Title of host publication: Abstracts (CD-ROM)
Place of publication: Berlin (DE)
Publisher: EMS

Series: EMS Annual Meeting Abstracts 2007
Number: 4
Main Research Area: Technical/natural sciences
Measurements of primary marine aerosols using the dissipation technique

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. L. (Intern), Larsen, S. E. (Intern), Pryor, S. (Intern), Kristensen, T. (Ekstern)
Pages: 84-84
Publication date: 2007

Host publication information
Title of host publication: Proceedings
Place of publication: Helsinki (FI)
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Lallalainen, H., Asmi, A., Salonen, M.
Number: 91
ISSN: 0784-3496
Main Research Area: Technical/natural sciences
Conference: 2007 : EUCAARI annual meeting, Helsinki (FI), 01/01/2007
Source: orbit
Source-ID: 222236
Publication: Research › peer-review › Conference abstract in proceedings – Annual report year: 2007

Meso-scale variation over the sea

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Nissen, J. N. (Intern)
Number of pages: 1
Publication date: 2007

Host publication information
Title of host publication: Abstracts (CD-ROM)
Place of publication: Berlin (DE)
Publisher: EMS
Series: EMS Annual Meeting Abstracts 2007
Number: 4
Main Research Area: Technical/natural sciences
Links:
Source: orbit
Source-ID: 222230
Publication: Research › peer-review › Conference abstract in proceedings – Annual report year: 2007

Modelling of bubble-mediated gas transfer: Fundamental principles and a laboratory test

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Pages: 71-91
Publication information
Journal: Journal of Marine Systems
Volume: 66
ISSN (Print): 0924-7963
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.092 SNIP 0.995
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.236 SNIP 1.456
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.618 SNIP 1.439
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.541 SNIP 1.28
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.548 SNIP 1.298
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.457 SNIP 1.132
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.425 SNIP 1.098
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.323 SNIP 1.293
Scopus rating (2007): SJR 1.177 SNIP 1.239
Scopus rating (2006): SJR 1.06 SNIP 1.318
Scopus rating (2005): SJR 1.376 SNIP 1.251
Scopus rating (2004): SJR 1.388 SNIP 1.272
Scopus rating (2003): SJR 1.302 SNIP 1.305
Scopus rating (2002): SJR 1.159 SNIP 1.298
Scopus rating (2001): SJR 1.168 SNIP 0.96
Scopus rating (2000): SJR 1.052 SNIP 0.844
Scopus rating (1999): SJR 0.905 SNIP 0.945
Original language: English
DOIs:
10.1016/j.jmarsys.2006.02.011
Source: orbit
Source-ID: 216402
Publication: Research - peer-review › Conference article – Annual report year: 2007

Offshore meteorology

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 2007
Event: Paper presented at Symposium: Decentralised energy systems - integrating renewable energy technologies in tomorrow's energy supply, Oldenburg, Germany.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 216624
On the extension of the wind profile over homogeneous terrain beyond the surface boundary layer

Analysis of profiles of meteorological measurements from a 160 m high mast at the National Test Site for wind turbines at H φ vs φ re (Denmark) and at a 250 m high TV tower at Hamburg (Germany) shows that the wind profile based on surface-layer theory and Monin-Obukhov scaling is valid up to a height of 50-80 m. At higher levels deviations from the measurements progressively occur. For applied use an extension to the wind profile in the surface layer is formulated for the entire boundary layer, with emphasis on the lowest 200-300 m and considering only wind speeds above 3 m s⁻¹ at 10 m height. The friction velocity is taken to decrease linearly through the boundary layer. The wind profile length scale is composed of three component length scales. In the surface layer the first length scale is taken to increase linearly with height with a stability correction following Monin-Obukhov similarity. Above the surface layer the second length scale (L-MBL) becomes independent of height but not of stability, and at the top of the boundary layer the third length scale is assumed to be negligible. A simple model for the combined length scale that controls the wind profile and its stability dependence is formulated by inverse summation. Based on these assumptions the wind profile for the entire boundary layer is derived. A parameterization of L-MBL is formulated using the geostrophic drag law, which relates friction velocity and geostrophic wind. The empirical parameterization of the resistance law functions A and B in the geostrophic drag law is uncertain, making it impractical. Therefore an expression for the length scale, L-MBL, for applied use is suggested, based on measurements from the two sites.

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Gryning, S. (Intern), Batchvarova, E. (Intern), Brümmer, B. (Ekstern), Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern)
Pages: 251-268
Publication date: 2007
Main Research Area: Technical/natural sciences

Publication information
Journal: Boundary-Layer Meteorology
Volume: 124
Issue number: 2
ISSN (Print): 0006-8314
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.726 SNIP 1.187
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.805 SNIP 1.756
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.765 SNIP 1.634
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.959 SNIP 1.626
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.409 SNIP 1.365
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.628 SNIP 1.211
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.986 SNIP 1.292
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.871 SNIP 1.631
Scopus rating (2007): SJR 1.597 SNIP 1.468
Scopus rating (2006): SJR 1.628 SNIP 1.385
Scopus rating (2005): SJR 1.182 SNIP 1.263
Scopus rating (2004): SJR 2.204 SNIP 1.83
Scopus rating (2003): SJR 1.945 SNIP 1.426
On the use of the Webb-Pearman-Leuning theory for closed-path eddy correlation measurements

We consider an imperfection of real closed-path eddy correlation systems—the decoupling of the water vapour and CO2 concentrations— with respect to the application of the Webb-Pearman-Leuning (WPL) theory. It is described why and how the current application of the WPL theory needs to be adapted to the processes in closed-path sensors. We show the quantitative effects of applying the WPL theory in different ways using CO2 flux measurements taken above the Danish Beech forest CarboEurope site near Soro, Zealand.

Using the WPL theory in closed-path sensors without taking amplitude damping and decoupling into account, over-corrected the annual flux by 21%, or 31 g m\(^{-2}\) yr\(^{-1}\), to which the decoupling effect contributed with 7%. We suggest either converting the raw data point-by-point to mixing ratios or using the uncorrected covariances of water vapour mole fractions with the vertical wind velocity that were calculated with the same time lag as for the scalar concentration when correcting the dilution effect. We showed that the two approaches yielded equivalent flux results. Correct ways of applying spectral corrections to CO2 fluxes calculated in either way are also shown. The findings reported here do not apply to open-path sensors.

General information

State: Published
Organisations: Ecosystems, Biosystems Division, Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division, Biosystems Division. Management
Authors: Ibrom, A. (Intern), Dellwik, E. (Intern), Larsen, S. E. (Intern), Pilegaard, K. (Intern)
Pages: 937-946
Publication date: 2007
Main Research Area: Technical/natural sciences

Publication information

Journal: Tellus. Series B: Chemical and Physical Meteorology
Volume: 59
Issue number: 5
ISSN (Print): 0280-6509
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.548 SNIP 0.935
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.752 SNIP 1.033
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 2.332 SNIP 1.375
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 2.589 SNIP 1.119
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 2.545 SNIP 1.207
ISI indexed (2011): ISI indexed yes
Particle fluxes over forests: Analyses of flux methods and functional dependencies

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Intern), Larsen, S. E. (Intern), Sørensen, L. L. (Intern), Barthelmie, R. J. (Intern), Grönholm, T. (Ekstern), Kulmala, M. (Ekstern), Launiainen, S. (Ekstern), Rannik, U. (Ekstern), Vesala, T. (Ekstern)
Pages: D07205
Publication date: 2007
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Geophysical Research: Atmospheres
Volume: 112
ISSN (Print): 2169-897X
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
BFI (2014): BFI-level 2
BFI (2013): BFI-level 2
ISI indexed (2013): ISI indexed no
BFI (2012): BFI-level 2
ISI indexed (2012): ISI indexed no
BFI (2011): BFI-level 2
ISI indexed (2011): ISI indexed no
BFI (2010): BFI-level 2
BFI (2009): BFI-level 2
BFI (2008): BFI-level 2
Original language: English
DOIs:
10.1029/2006JD008066
Source: orbit
Source-ID: 216409
Publication: Research - peer-review › Journal article – Annual report year: 2007
It was the goal of the project – by means of data from the demonstration wind farms Horns Rev and Nysted, analyses of these data and modelling – to facilitate prediction of the power losses from a wind farm should a new wind farm be built upwind relative to the prevailing wind direction. Or conversely, predict with adequate accuracy the production of a new wind farm built downwind of an existing wind farm. The project should be seen in the perspective of the two existing demonstration wind farms that extend 5-10 km in each direction. In order to e.g. use the existing electrical infrastructure it may appropriate to build new wind farms rather close to the existing wind farms. A relevant question is therefore how far away new wind farms must be placed to avoid too large power losses. Measurements have been carried out for several years at the two sites, and databases have been prepared. The databases – one for each site – include production and operational statistics for the wind turbines and statistics for the meteorological measurements carries out in the vicinity of the wind farms. Several different modelling activities were carried out, which intentionally to some extent are redundant. Thus, if different modelling efforts results in comparable results, the quality of the models will be tested outside the physical range where data are available. All considered the project participants find that the project has been immensely successful. The main achievements of the project are: • Measurements were carried out at the Nysted and Horns Rev demonstration wind farms for several years. Doing so included design, installation and operation of the measurement system • A data base was built from the incoming data. The data have been organized to facilitate verification of the models developed as part of the project • 6-7 different models have been developed and compared. • Approximately 20 journal and conference papers have resulted directly from the project.
Air-sea fluxes of CO₂ in the Greenland Sea

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern), Lund, S. (Ekstern)
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 8
Issue number: Abstr. EGU06-A-07958
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 309128
Publication: Research › Journal article – Annual report year: 2006

Analytical modelling of wind speed deficit in large offshore wind forms

General information
State: Published
Organisations: Wind Turbines, Wind Energy Division, Risø National Laboratory for Sustainable Energy, Meteorology
Authors: Frandsen, S. T. (Intern), Barthelme, R. J. (Intern), Pryor, S. (Ekstern), Rathmann, O. (Intern), Larsen, S. E. (Intern), Heijstrup, J. (Ekstern), Thøgersen, M. (Ekstern)
Pages: 39-53
Dry deposition of small particles to ocean surfaces. Reanalysis of a laboratory experiment

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Edson, J. (Ekstern), Mestayer, P. (Ekstern)
Publication date: 2006
Main Research Area: Technical/natural sciences
Dry deposition of small particles to ocean surfaces. Reanalysis of a laboratory experiment

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Edson, J. (Ekstern), Mestayer, P. (Ekstern)
Pages: 297-302
Publication date: 2006

Host publication information
Title of host publication: Proceedings of BACCI, NECC and FCoE activities 2005. Book A
Place of publication: Helsinki
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Lindroth, A., Ruuskanen, T.
Number: 81A
ISSN: 0784-3496
Main Research Area: Technical/natural sciences

Identifying the European fossil fuel plumes in the atmosphere over the Northeast Atlantic Region through isotopic observations and numerical modelling

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Geels, C. (Ekstern), Christensen, J. (Ekstern), Hansen, A. (Ekstern), Heinemeier, J. (Ekstern), Kihlsholm, S. (Ekstern), Larsen, N. (Ekstern), Larsen, S. E. (Intern), Pedersen, T. (Ekstern), Sørensen, L. (Intern), Brandt, J. (Ekstern), Frohn, L. (Ekstern), Djurhuus, S. (Intern)
Pages: 387-409
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Environmental Monitoring and Assessment
Volume: 117
ISSN (Print): 0167-6369
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.634 SNIP 0.947
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.742 SNIP 1.296
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.685 SNIP 1.374
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.782 SNIP 1.24
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.686 SNIP 1.102
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.604 SNIP 1.036
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.573 SNIP 0.924
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.554 SNIP 0.781
Scopus rating (2007): SJR 0.467 SNIP 0.724
Scopus rating (2006): SJR 0.499 SNIP 0.841
Scopus rating (2005): SJR 0.484 SNIP 0.76
Scopus rating (2004): SJR 0.492 SNIP 0.737
Scopus rating (2003): SJR 0.438 SNIP 0.768
Scopus rating (2002): SJR 0.428 SNIP 0.555
Scopus rating (2001): SJR 0.368 SNIP 0.589
Scopus rating (2000): SJR 0.473 SNIP 0.853
Scopus rating (1999): SJR 0.393 SNIP 0.521

Original language: English
DOIs:
10.1007/s10661-006-0775-4
Source: orbit
Source-ID: 309433
Publication: Research - peer-review › Journal article – Annual report year: 2006

Measurement of particle fluxes: Methodological considerations, corrections and method comparisons

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Ekstern), Larsen, S. E. (Intern), Sørensen, L. (Intern), Barthelmie, R. (Intern)
Pages: 471-474
Publication date: 2006

Host publication information
Title of host publication: Proceedings of BACCI, NECC and FCoE activities 2005. Book B
Place of publication: Helsinki
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Lindroth, A., Ruuskanen, T.
Number: 81B
ISSN: 0784-3496
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 309287
Publication: Research - peer-review › Book chapter – Annual report year: 2006

Magnetism, iron minerals, and life on Mars

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Pages: 423-436
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Astrobiology
Volume: 6
MEAD: An interdisciplinary study of the marine effects of atmospheric deposition in the Kattegat

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Pages: 453-462
Publication date: 2006
Main Research Area: Technical/natural sciences

Publication information
Journal: Environmental Pollution
Volume: 140
ISSN (Print): 0269-7491
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 2.045 SNIP 1.608
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 2.014 SNIP 2.003
BFI (2013): BFI-level 2
Scopus rating (2013): SJR 1.985 SNIP 1.951
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 2
Scopus rating (2012): SJR 2.069 SNIP 1.752
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 2
Scopus rating (2011): SJR 2.064 SNIP 1.742
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 2
Scopus rating (2010): SJR 2.011 SNIP 1.631
BFI (2009): BFI-level 2
Scopus rating (2009): SJR 2.009 SNIP 1.701
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.918 SNIP 1.715
Scopus rating (2007): SJR 1.858 SNIP 1.742
Scopus rating (2006): SJR 1.688 SNIP 1.818
Scopus rating (2005): SJR 1.523 SNIP 1.725
Scopus rating (2004): SJR 1.662 SNIP 1.664
Scopus rating (2003): SJR 1.557 SNIP 1.719
Scopus rating (2002): SJR 1.253 SNIP 1.438
Scopus rating (2001): SJR 1.153 SNIP 1.259
Scopus rating (2000): SJR 0.845 SNIP 1.056
Scopus rating (1999): SJR 1.029 SNIP 1.011

Original language: English
DOIs:
Mean wind and turbulence in the atmospheric boundary layer above the surface layer

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Gryning, S. (Intern), Jensen, N. (Intern), Ejsing Jørgensen, H. (Intern), Mann, J. (Intern)
Pages: 21-25
Publication date: 2006

Host publication information
Title of host publication: Wind energy. Proceedings of the Euromech colloquium
Place of publication: Berlin
Publisher: Springer
Editors: Peinke, J., Schaumann, P., Barth, S.
ISBN (Print): 3-540-33865-9
Main Research Area: Technical/natural sciences
Conference: EUROMECH Colloquium 464b Wind Energy, Oldenburg, Germany, 04/10/2005 - 04/10/2005
Source: orbit
Source-ID: 309839
Publication: Research - peer-review › Article in proceedings – Annual report year: 2006

Mean wind and turbulence profiles at greater heights

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Gryning, S. (Intern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern), Mann, J. (Intern), Astrup, P. (Intern)
Publication date: 2006

Host publication information
Title of host publication: Proceedings (online)
Place of publication: Brussels
Publisher: European Wind Energy Association (EWEA)
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 309201
Publication: Research › Article in proceedings – Annual report year: 2006

Particle flux dependencies: A case study

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Ekstern), Barthelmie, R. (Intern), Larsen, S. E. (Intern), Sørensen, L. (Intern)
Pages: 462-465
Publication date: 2006

Host publication information
Title of host publication: Proceedings of BACCI, NECC and FCoE activities 2005. Book B
Place of publication: Helsinki
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Lindroth, A., Ruuskanen, T.
Number: 81B
Particle flux dependencies: A synthesis study

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Ekstern), Gallagher, M. (Ekstern), Sievering, H. (Ekstern), Larsen, S. E. (Intern), Barthelmie, R. (Intern), Birsan, F. (Ekstern), Nemitz, E. (Ekstern), Rinne, J. (Ekstern), Kulmala, M. (Ekstern), Grönholm, T. (Ekstern), Taipale, R. (Ekstern), Vesala, T. (Ekstern)
Pages: 466-470
Publication date: 2006

Host publication information
Title of host publication: Proceedings of BACCI, NECC and FCoE activities 2005. Book B
Place of publication: Helsinki
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Lindroth, A., Ruuskanen, T.

Profiles of mean flow and turbulence during stable weak wind conditions from multiyear profile data

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern)
Number of pages: 11
Publication date: 2006

Host publication information
Title of host publication: Atmospheric boundary layers: Modelling and applications for environmental security
Place of publication: [s.l.]
Publisher: Organizing Committee
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 309182
Publication: Research › Conference abstract in proceedings – Annual report year: 2006

Air-sea exchange of gases and particles

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 2005
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 308047
Publication: Research › Conference abstract for conference – Annual report year: 2005
Air-sea fluxes of water vapour and CO₂ in the North Atlantic

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division, Test and Measurements
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern), Lund, S. W. (Intern), Nielsen, J. (Intern)
Pages: 22
Publication date: 2005
Main Research Area: Technical/natural sciences

Publication information
Journal: SOLAS News
Issue number: 2
Original language: English
Links:
Source: orbit
Source-ID: 308601
Publication: Communication › Journal article – Annual report year: 2005


General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Ekstern), Sørensen, L. (Intern), Barthelmie, R. (Intern), Larsen, S. E. (Intern)
Pages: 63-64
Publication date: 2005

Host publication information
Title of host publication: Proceedings of BACCI activities 2004. Book A
Place of publication: Helsinki
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Ruuskanen, T.
Number: 71A
ISSN: 0784-3496
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307802
Publication: Research - peer-review › Book chapter – Annual report year: 2005

Corrections to power spectra measured by CSAT and Solent sonic anemometers

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Horst, T. (Ekstern), Oncley, S. (Ekstern), Larsen, S. E. (Intern), Nielsen, M. (Intern), Fairall, C. (Ekstern)
Publication date: 2005
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 7
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Fluxes of water vapour and CO₂ using the dissipation technique

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern)
Publication date: 2005
Event: Abstract from 37. International Liege colloquium on ocean dynamics, Liege (BE), 2-6 May.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 308251
Publication: Research › Conference abstract for conference – Annual report year: 2005

Observations of aerosol flux divergence during dry deposition to forest canopies (poster)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Ekstern), Barthelmie, R. (Intern), Sørensen, L. (Intern), Andersson, K. (Ekstern), Prip, H. (Intern), Larsen, S. E. (Intern)
Publication date: 2005
Event: Poster session presented at BACCI evaluation meeting, Lund, Sweden.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307778
Publication: Research › Conference abstract in proceedings – Annual report year: 2005

Particle measurements in and over a Beech forest

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pryor, S. (Ekstern), Barthelmie, R. (Intern), Larsen, S. E. (Intern), Lund, S. W. (Intern), Sørensen, L. (Intern)
Pages: 84-85
Publication date: 2005

Host publication information
Title of host publication: Abstracts]
Place of publication: Kuopio
Publisher: University of Kuopio
Main Research Area: Technical/natural sciences
Conference: 2nd Joint BACCI Meeting, Kuopio, Finland, 13/06/2005 - 13/06/2005
Source: orbit
Source-ID: 308131
Publication: Research › Conference abstract in proceedings – Annual report year: 2005

Præsentation af konsortiets uddannelsesaktiviteter herunder resultater fra Ph.D. og masterprojekter

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Blåbjerg, F. (Ekstern), Larsen, S. E. (Intern)
Publication date: 2005
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 308296
Publication: Research › Conference abstract for conference – Annual report year: 2005
Profiles of mean wind and turbulence in the atmospheric boundary layer above the surface layer

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Gryning, S. (Intern), Jensen, N. (Intern), Ejsing Jørgensen, H. (Intern), Mann, J. (Intern)
Number of pages: 15
Publication date: 2005

Host publication information
Title of host publication: [Program and abstracts]
Place of publication: Oldenburg
Publisher: ForWind - Center for Wind Energy Research
Main Research Area: Technical/natural sciences
Conference: EUROMECH Colloquium 464b Wind Energy, Oldenburg, Germany, 04/10/2005 - 04/10/2005
Source: orbit
Source-ID: 308783
Publication: Research › Conference abstract in proceedings – Annual report year: 2005

Research item: Sources and fluxes within the BACCI project. A progress report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Nilsson, E. (Ekstern), Vesala, T. (Ekstern)
Pages: 21-26
Publication date: 2005

Host publication information
Title of host publication: Proceedings of BACCI activities 2004. Book A
Place of publication: Helsinki
Publisher: Finnish Association for Aerosol Research
Editors: Kulmala, M., Ruuskanen, T.
Number: 71A
ISSN: 0784-3496
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307801
Publication: Research - peer-review › Book chapter – Annual report year: 2005

Spectral estimation of fluxes for homogeneous and heterogeneous conditions

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Sørensen, L. (Intern), Pryor, S. (Ekstern)
Pages: 60-65
Publication date: 2005

Host publication information
Title of host publication: [Abstracts]
Place of publication: Kuopio
Publisher: University of Kuopio
Main Research Area: Technical/natural sciences
Conference: 2nd Joint BACCI Meeting, Kuopio, Finland, 13/06/2005 - 13/06/2005
Source: orbit
Source-ID: 308130
Publication: Research › Conference abstract in proceedings – Annual report year: 2005
Spectral methods for estimation of fluxes of scalars

**General information**

State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern), Pryor, S. (Ekstern)
Number of pages: 11
Publication date: 2005

**Host publication information**

Title of host publication: ACCENT-BIAFLUX workshop 2005. Trace gas and aerosol flux measurement techniques.
Abstract book
Volume: Risø-R-1508(EN)
Editors: Werner, A., Sørensen, L.
ISBN (Print): 87-550-3421-7
Main Research Area: Technical/natural sciences
Workshop: ACCENT-BIAFLUX Workshop 2005, Risø, Denmark, 06/04/2005 - 06/04/2005
Links:
http://www.risoe.dtu.dk/rispubl/VEA/veapdf/ris-r-1508.pdf
http://www.risoe.dtu.dk/rispubl/VEA/veapdf/vea_10_2006.pdf
Source: orbit
Source-ID: 307939
Publication: Research › Conference abstract in proceedings – Annual report year: 2005

Ten years of meteorological measurements for offshore wind farms

**General information**

State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Barthelmie, R. (Intern), Hansen, O. (Intern), Enevoldsen, K. (Intern), Højstrup, J. (Ekstern), Frandsen, S. (Ekstern), Pryor, S. (Ekstern), Larsen, S. E. (Intern), Motta, M. (Ekstern), Sanderhoff, P. (Intern)
Pages: 170-176
Publication date: 2005
Main Research Area: Technical/natural sciences

**Publication information**

Journal: Journal of Solar Energy Engineering
Volume: 127
ISSN (Print): 0199-6231
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.777 SNIP 0.962
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.805 SNIP 1.184
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.744 SNIP 1.432
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.581 SNIP 1.089
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 0.487 SNIP 1.27
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.542 SNIP 1.126
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 0.688 SNIP 1.117
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.773 SNIP 1.114
Scopus rating (2007): SJR 0.501 SNIP 0.967
Scopus rating (2006): SJR 1.247 SNIP 1.421
Scopus rating (2005): SJR 1.148 SNIP 1.225
Scopus rating (2004): SJR 0.662 SNIP 1.59
Scopus rating (2003): SJR 1.01 SNIP 1.298
Scopus rating (2002): SJR 0.692 SNIP 0.48
Scopus rating (2001): SJR 0.769 SNIP 0.887
Scopus rating (2000): SJR 0.731 SNIP 0.816
Scopus rating (1999): SJR 0.364 SNIP 1.349
Original language: English
DOIs:
10.1115/1.1850489
Source: orbit
Source-ID: 308112
Publication: Research - peer-review › Journal article – Annual report year: 2005

The necessary distance between large wind farms offshore - study

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Frandsen, S. (Ekstern), Barthelmie, R. (Ekstern), Pryor, S. (Ekstern), Rathmann, O. (Intern), Larsen, S. E. (Intern), Hejstrup, J. (Intern), Nielsen, P. (Ekstern), Thøgersen, M. (Ekstern)
Number of pages: 29
Publication date: 2005

Publication information
ISBN (Print): 87-550-3447-0
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 1518(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-R-1518, Risø-R-1518(EN)
Electronic versions:
ris_r_1518.pdf
Source: orbit
Source-ID: 308059
Publication: Research › Report – Annual report year: 2005

Analytical modelling of large wind farm clusters

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology, Wind Turbines
Authors: Barthelmie, R. J. (Intern), Frandsen, S. T. (Intern), Pryor, S. (Ekstern), Larsen, S. E. (Intern), Mann, J. (Intern)
Publication date: 2004
Event: Abstract from European Geophysical Union meeting, Nice (FR), Apr, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307465
Publication: Research › Conference abstract for conference – Annual report year: 2004

Analytical modelling of large wind farm clusters

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Barthelmie, R. (Intern), Pryor, S. (Ekstern), Frandsen, S. (Ekstern), Larsen, S. E. (Intern)
Pages: 292-303
Analytical modelling of wind speed deficit in large offshore wind farms

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Frandsen, S. (Ekstern), Barthelmie, R. (Intern), Pryor, S. (Ekstern), Rathmann, O. (Intern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Thøgersen, M. (Ekstern)
Pages: 6-11
Publication date: 2004

Atmos experiment - overview and current instrument design status

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Harri, A. (Ekstern), Polkko, J. (Ekstern), Calcutt, S. (Ekstern), Crisp, D. (Ekstern), Larsen, S. E. (Intern), Siili, T. (Ekstern), Pommereau, J. (Ekstern)
Publication date: 2004

AutoFlux - an autonomous system for monitoring air-sea fluxes using the inertial dissipation method and ship mounted instrumentation. Final report period 1998-08-01 - 2001.07.31

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Flow within and downwind of large wind farm clusters

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Barthelmie, R. (Intern), Frandsen, S. T. (Intern), Pryor, S. (Ekstern), Larsen, S. E. (Intern)
Publication date: 2004
Event: Abstract from European Geophysical Union meeting NATO Advanced Study Institute: Flow and transport processes in complex obstructed geometries: From cities and vegetative canopies to industrial problems, Kiev (UA), May,
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307466
Publication: Research › Conference abstract for conference – Annual report year: 2004

Flux divergences of gaseous and particulate nitrogen due to chemistry and horizontal heterogeneity

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Pryor, S. (Ekstern), Larsen, S. E. (Intern), Jensen, N. (Intern), Dellwik, E. (Intern)
Publication date: 2004
Event: Abstract from 1. ACCENT-BIAFLUX meeting, Edinburgh (GB), 8-10 Sep,.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307345
Publication: Research › Conference abstract for conference – Annual report year: 2004

High artic carbon sink identification – A systems approach

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Soegaard, H. (Ekstern), Sørensen, L. (Intern), Rysgaard, S. (Ekstern), Grøndahl, L. (Ekstern), Elberling, B. (Ekstern),Friisborg, T. (Ekstern), Larsen, S. E. (Intern), Bendtsen, J. (Ekstern)
Pages: 11-14
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Global Change NewsLetter
Issue number: 59
ISSN (Print): 0284-5865
Ratings:
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 307284
Publication: Research - peer-review › Journal article – Annual report year: 2004
Importance of thermal effects and sea surface roughness for offshore wind resource assessment

The economic feasibility of offshore wind power utilisation depends on the favourable wind conditions offshore as compared to sites on land. The higher wind speeds have to compensate the additional cost of offshore developments. However, not only the mean wind speed is different, but the whole flow regime, as can, e.g., be seen in the vertical wind speed profile. The commonly used models to describe this profile have been developed mainly for land sites. Their applicability for wind power prediction at offshore sites is investigated using data from the measurement program Rodsand, located in the Danish Baltic Sea.

Monin-Obukhov theory is often used for the description of the wind speed profile. From a given wind speed at one height, the profile is predicted using two parameters, Obukhov length and sea surface roughness. Different methods to estimate these parameters are discussed and compared. Significant deviations to the Monin-Obukhov theory are found for near-neutral and stable conditions when warmer air is advected from land with a fetch of more than 30 km. The measured wind shear is larger than predicted.

As a test application, the wind speed measured at 10 m height is extrapolated to 50 m height and the power production of a wind turbine at this height is predicted with the different models. The predicted wind speed is compared to the measured one and the predicted power output to the one using the measured wind speed. To be able to quantify the importance of the deviations from Monin-Obukhov theory, a simple correction method to account for this effect has been developed and is tested in the same way.

The models for the estimation of the sea surface roughness were found to lead only to small differences. For the purpose of wind resource assessment, even the assumption of a constant roughness was found to be sufficient. The different methods used to derive the Obukhov length L were found to differ significantly for near-neutral and stable atmospheric stratification. Here again the simplest method using only bulk measurements was found to be sufficient.

For situations with near-neutral and stable atmospheric stratification and long (>30 km) fetch, the wind speed increase with height is larger than what is predicted from Monin-Obukhov theory for all methods to estimate L and z(0). It is also found that this deviation occurs at wind speeds important for wind power utilisation, mainly at 5-9 m s(-1).

The power output estimation has also been compared with the method of the resource estimation program WAsP. For the Rodsand data set the prediction error of WAsP is about 4%. For the extrapolation with Monin-Obukhov theory with different L and z(0) estimations, it is 5-9%. The simple wind profile correction method, which has been developed, leads to a clear improvement of the wind speed and power output predictions. When the correction is applied, the error reduces to 2-5%. (C) 2004 Elsevier Ltd. All rights reserved.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Intern), Barthelmie, R. (Intern)
Pages: 959-988
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Wind Engineering & Industrial Aerodynamics
Volume: 92
Issue number: 11
ISSN (Print): 0167-6105
Ratings:
  BFI (2017): BFI-level 1
  BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.097 SNIP 1.836
  BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.988 SNIP 2.242
  BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.828 SNIP 2.687
  ISI indexed (2013): ISI indexed yes
  BFI (2012): BFI-level 1
Scopus rating (2012): SJR 0.792 SNIP 2.423
  ISI indexed (2012): ISI indexed yes
  BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.041 SNIP 3.35
  ISI indexed (2011): ISI indexed yes
Importance of thermal effects and sea surface roughness for wind resource and wind shear at offshore sites

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Intern), Barthelmie, R. (Intern)
Pages: 364-375
Publication date: 2004

Host publication information
Title of host publication: Proceedings
Place of publication: Delft
Publisher: Delft University of Technology
ISBN (Print): 90-76468-10-9
Main Research Area: Technical/natural sciences
Conference: Special topic conference: The science of making torque from wind, Delft (NL), 19-21 Apr, 01/01/2004
Source: orbit
Source-ID: 306799
Publication: Research - peer-review › Article in proceedings – Annual report year: 2004

Investigation of stably stratified flow in a coastal marine surface layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Intern), Barthelmie, R. (Intern)
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 6
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
Mars surface boundary layer meteorology observations from Viking and Pathfinder

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejssing Jørgensen, H. (Intern), Murphy, J. (Ekstern), Tillman, J. (Ekstern), Schofield, J. (Ekstern)
Publication date: 2004

**Host publication information**
Title of host publication: Mars atmosphere modelling and observations
Place of publication: Granada
Publisher: Instituto de Astrofisica de Andalucia
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 306613
Publication: Research › Article in proceedings – Annual report year: 2004

Netlander Atmis wind and temperature instruments

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Crisp, D. (Ekstern), LaBaw, C. (Ekstern), Mahoney, C. (Ekstern), Serviss, O. (Ekstern), Harri, A. (Ekstern), Polkko, J. (Ekstern), Calcutt, S. (Ekstern), Tillman, J. (Ekstern), Larsen, S. E. (Intern), Haberle, R. (Ekstern)
Publication date: 2004

**Host publication information**
Title of host publication: Mars atmosphere modelling and observations
Place of publication: Granada
Publisher: Instituto de Astrofisica de Andalucia
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 306615
Publication: Research › Article in proceedings – Annual report year: 2004

Observations of aerosol flux divergence during dry deposition to forest canopies

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Radiation Research Division, Wind Energy Division
Authors: Pryor, S. (Ekstern), Barthelme, R. (Intern), Sørensen, L. (Intern), Andersson, K. G. (Intern), Prip, H. (Intern), Larsen, S. E. (Intern)
Pages: 91-92
Publication date: 2004

**Host publication information**
Title of host publication: [Abstracts]
Place of publication: Lund
Publisher: Lund Institute of Technology
Main Research Area: Technical/natural sciences
On detection of a wave age dependency for the sea surface roughness

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Johnson, H. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Intern), Kofoed-Hansen, H. (Ekstern), Yelland, M. (Ekstern)
Pages: 1441-1458
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Volume: 34
Original language: English
Source: orbit
Source-ID: 306969
Publication: Research - peer-review › Journal article – Annual report year: 2004

"Støvhvirvler" i Mars' atmosfære

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern), Murphy, J. (Ekstern)
Pages: 42-48
Publication date: 2004
Main Research Area: Technical/natural sciences

Publication information
Journal: Vejret
Volume: 98
Issue number: 1
ISSN (Print): 0106-5025
Original language: English
Source: orbit
Source-ID: 306998
Publication: Communication › Journal article – Annual report year: 2004

Synthesis of the scientific results obtained through the AutoFlux project

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 6
Publication date: 2004

Publication information
Place of publication: Southampton
Publisher: SOC International Scientific Secretariat (ISS)
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 307607
Publication: Research › Report – Annual report year: 2004
The importance of thermal effects on the wind shear at offshore wind farm sites

The wind speed profile in a coastal marine environment is investigated with observations from the measurement program Rodsand, where meteorological data are collected with a 50 m high mast in the Danish Baltic Sea, about 11 km from the coast. When compared with the standard Monin-Obukhov theory the measured wind speed increase between 10 m and 50 m height is found to be systematically larger than predicted for stable and near-neutral conditions. The data indicate that the deviation is smaller for short (10 - 20 km) distances to the coast than for larger (> 30 km) distances.

The theory of the planetary boundary layer with an inversion lid offers a qualitative explanation for these findings. When warm air is advected over colder water, a capping inversion typically develops. The air below is constantly cooled by the water and gradually develops into a well-mixed layer with near-neutral stratification. Typical examples as well as scatter plots of the data are consistent with this explanation. The deviation of measured and predicted wind speed profiles is shown to be correlated with the estimated height and strength of the inversion layer.
Publication information
Journal: Boundary-Layer Meteorology
Volume: 112
Issue number: 3
ISSN (Print): 0006-8314
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.726 SNIP 1.187
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.805 SNIP 1.756
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.765 SNIP 1.634
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.959 SNIP 1.626
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.409 SNIP 1.365
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.628 SNIP 1.211
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.986 SNIP 1.292
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 1.871 SNIP 1.631
Scopus rating (2007): SJR 1.597 SNIP 1.468
Scopus rating (2006): SJR 1.628 SNIP 1.385
Scopus rating (2005): SJR 1.182 SNIP 1.263
Scopus rating (2004): SJR 2.204 SNIP 1.83
Scopus rating (2003): SJR 1.945 SNIP 1.426
Scopus rating (2002): SJR 1.461 SNIP 1.197
Scopus rating (2001): SJR 1.737 SNIP 1.139
Scopus rating (2000): SJR 1.209 SNIP 1.082
Scopus rating (1999): SJR 1.543 SNIP 0.911
Original language: English
Atmospheric stratification, Coastal influences, Marine boundary layer, Monin-Obukhov theory, Wind speed profile
DOIs:
10.1023/B:BOUN.0000030652.20894.83
Source: orbit
Source-ID: 306917
Publication: Research - peer-review › Journal article – Annual report year: 2004

CAPMAN. Coastal Air Pollution Meteorology and Air-Sea Nutrient Exchange. Final report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Geernaert, G. (Ekstern), Sempreviva, A. M. (Intern)
Number of pages: 123
Publication date: 2003

Publication information
Place of publication: München
Publisher: GSF - Forschungszentrum für Umwelt und Gesundheit GmbH. EUROTRAC-2 International Scientific Secretariat (ISS)
Coastal air pollution meteorology and air-sea nutrient exchange. Overview of subproject CAPMAN

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Sempreviva, A. (Intern), Geernaert, G. (Ekstern)
Pages: 59-71
Publication date: 2003

Host publication information
Title of host publication: Towards cleaner air for Europe. Science, tools and applications. Part 2
Place of publication: Weikersheim
Publisher: Margraf Publishers
Editors: Midgley, P., Reuther, M.
ISBN (Print): 3-8236-1391-X
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 305331
Publication: Research - peer-review › Book chapter – Annual report year: 2003

Coastal internal boundary layers for passive scalars

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sempreviva, A. (Intern), Dunkerley, F. (Ekstern), Frank, H. (Ekstern), Højstrup, J. (Intern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Pages: 87-94
Publication date: 2003

Host publication information
Title of host publication: CAPMAN. Coastal Air Pollution Meteorology and Air-Sea Nutrient Exchange. Final report
Place of publication: München
Publisher: GSF - Forschungszentrum für Umwelt und Gesundheit GmbH. EUROTRAC-2 International Scientific Secretariat (ISS)
Editors: Larsen, S., Geernaert, G., Sempreviva, A.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 306045
Publication: Research › Book chapter – Annual report year: 2003

Comparison of a simple model for the coastal boundary layer with data from the Schiermonikoog experiment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Dunkerley, F. (Ekstern), Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Astrup, P. (Intern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
Grænselagsmeteorologiske resultater fra Viking og Pathfinder landerne

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern)
Publication date: 2003
Event: Abstract from MARS-symposium og MARS-workshop, København (DK), 30 Apr.,
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 305454
Publication: Research › Journal article – Annual report year: 2003

Importance of sampling depth for estimates of the CO₂ flux across air-water interface

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern), Sørensen, L. (Intern), Borges, A. (Ekstern), Frankignoulle, M. (Ekstern)
Publication date: 2003
Main Research Area: Technical/natural sciences

**Publication information**
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 305453
Publication: Research › Journal article – Annual report year: 2003

Importance of thermal effects and sea surface roughness for offshore wind resource assessment

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Intern), Barthelmie, R. (Intern)
Publication date: 2003

**Host publication information**
Title of host publication: Proceedings CD-ROM. CD 2
Place of publication: Brussels
Publisher: European Wind Energy Association (EWEA)
Main Research Area: Technical/natural sciences
Workshop: 2003 European Wind Energy Conference and Exhibition, Madrid, Spain, 16/06/2003 - 16/06/2003
Source: orbit
Source-ID: 305925
Publication: Research › Article in proceedings – Annual report year: 2003
Investigation of the structure of the stably stratified atmospheric surface-boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jensen, N. (Intern), Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 305503
Publication: Research › Journal article – Annual report year: 2003

Mars surface boundary layer climatology from Viking and Pathfinder

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Murphy, J. (Ekstern), Tillman, J. (Ekstern), Schofield, J. (Ekstern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 305452
Publication: Research › Journal article – Annual report year: 2003

Measurements related to modelling of large offshore wind farm: Ten years experience

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Barthelmie, R. (Ekstern), Frandsen, S. T. (Intern), Pryor, S. (Ekstern), Hejstrup, J. (Intern), Larsen, S. E. (Intern), Hansen, O. (Intern), Enevoldsen, K. (Intern), Sanderhoff, P. (Intern), Landberg, L. (Intern)
Publication date: 2003

Host publication information
Title of host publication: Conference proceedings (CD-ROM)
Place of publication: Washington, DC
Publisher: American Wind Energy Association (AWEA)
Main Research Area: Technical/natural sciences
Microclimate of the Jagtvej street canyon

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Nielsen, M. (Intern), Larsen, S. E. (Intern)
Pages: 469-472
Publication date: 2003

Host publication information
Title of host publication: Proceedings
Place of publication: Hatfield
Publisher: University of Hertfordshire
Editors: Sokhi, R., Brechler, J.
ISBN (Print): 0-75030-954-7
Main Research Area: Technical/natural sciences
Conference: 4th International Conference on Urban Air Quality, Prague, Czech Republic, 25/03/2003 - 25/03/2003
Source: orbit
Source-ID: 305368
Publication: Research › Article in proceedings – Annual report year: 2003

Near ocean particles and particle fluxes during the EC-MEAD project

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Ekstern), Pryor, S. (Ekstern), Larsen, S. E. (Intern)
Publication date: 2003
Event: Abstract from BACCI workshop on modeling and parametrization, Oslo (NO), 6-7 May,.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 306052
Publication: Research › Conference abstract for conference – Annual report year: 2003

The dependence of sea surface roughness on wind-waves

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Johnson, H. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Kofoed-Hansen, H. (Ekstern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 305451
Publication: Research › Journal article – Annual report year: 2003
The influence of thermal effects on the wind speed profile of the coastal marine boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Barthelmie, R. (Intern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 305501
Publication: Research › Journal article – Annual report year: 2003

The wind speed profile at offshore wind farm sites

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Barthelmie, R. (Intern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 5
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 305502
Publication: Research › Journal article – Annual report year: 2003

The wind speed profile at offshore wind farm sites

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Barthelmie, R. (Intern)
Publication date: 2003
Main Research Area: Technical/natural sciences

Host publication information
Title of host publication: Offshore wind energy in Mediterranean and other European seas. Resources, technology, applications
Place of publication: Naples
Publisher: Univ. of Naples
Main Research Area: Technical/natural sciences
Wind conditions at offshore sites - results of the Rødsand measurement program

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Barthelmie, R. (Intern)
Pages: 29-38
Publication date: 2003

Host publication information
Title of host publication: IEA joint action
Place of publication: Stockholm
Publisher: FOI
Editor: Thor, S.

Series: FOI-S-0822
Main Research Area: Technical/natural sciences

Aggregation of momentum and temperature roughnesses based on satellite data

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jensen, N. (Intern), Hasager, C. (Intern), Larsen, S. E. (Intern)
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 4
ISSN (Print): 1607-7962

Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English

Links:
http://www.cosis.net/abstracts/EGS02/04241/EGS02-A-04241.pdf

Source: orbit
Source-ID: 303999
Publication: Research › Journal article – Annual report year: 2002

ASGAMAGE: The air-sea gas exchange/MAGE experiment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Aspects of the atmospheric surface layers on Mars and Earth

The structures of mean flow and turbulence in the atmospheric surface boundary layer have been extensively studied on Earth, and to a far less extent on Mars, where only the Viking missions and the Pathfinder mission have delivered in-situ data. Largely the behaviour of surface-layer turbulence and mean flow on Mars is found to obey the same scaling laws as on Earth. The largest micrometeorological differences between the two atmospheres are associated with the low air density of the Martian atmosphere. Together with the virtual absence of water vapour, it reduces the importance of the atmospheric heat flux in the surface energy budget. This increases the temperature variation of the near-surface temperature gradient and thereby the diabatic heat flux to higher values than are typical on the Earth, resulting in turn in a deeper daytime boundary layer. As wind speed is much like that of the Earth, this larger diabatic heat flux is carried mostly by larger maximal values of \( T^* \), the surface scale temperature. The higher kinematic viscosity yields a Kolmogorov scale of the order of ten times larger than on Earth, influencing the transition between rough and smooth flow for the same surface features.

The scaling laws have been validated analysing the Martian surface-layer data for the relations between the power spectra of wind and temperature turbulence and the corresponding mean values of wind speed and temperature. Usual spectral formulations were used based on the scaling laws ruling the Earth atmospheric surface layer, whereby the Earth’s atmosphere is used as a standard for the Martian atmosphere.
Comparison of sea surface roughness models for offshore wind power utilisation

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Højstrup, J. (Ekstern), Larsen, S. E. (Intern), Barthelmie, R. (Intern)
Publication date: 2002

Host publication information
Title of host publication: Offshore wind energy (CD-ROM)
Place of publication: Brussels
Publisher: European Wind Energy Association (EWEA)
Main Research Area: Technical/natural sciences
Conference: EWEA Offshore Wind Energy Special Topic Conference, Brussels, Belgium, 10/12/2001 - 10/12/2001
Source: orbit
Source-ID: 304579
Publication: Research - peer-review › Journal article – Annual report year: 2002

Comparison of the deliberate tracer method and eddy covariance measurements to determine the air/sea transfer velocity of CO₂

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jacobs, C. (Ekstern), Kjeld, J. (Ekstern), Nightingale, P. (Ekstern), Upstill-Goddard, R. (Ekstern), Larsen, S. E. (Intern), Oost, W. (Ekstern)
Pages: 225-231
Publication date: 2002

Host publication information
Title of host publication: Gas transfer at water surfaces
Place of publication: Washington, DC
Publisher: American Geophysical Union
Editors: Donelan, M., Drennan, W., Saltzman, E., Wanninkhof, R.
ISBN (Print): 0-87590-986-8
Series: Geophysical Monograph Series, 127
Main Research Area: Technical/natural sciences
Source: orbit
Derivation of Martian surface winds from Mars Pathfinder (poster)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Murphy, J. (Ekstern), Larsen, S. E. (Intern), Jørgensen, H. (Ekstern), Schofield, T. (Ekstern), Nelli, S. (Ekstern)
Publication date: 2002
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 305192
Publication: Research › Poster – Annual report year: 2002

Evaluation of models for the vertical extrapolation of wind speed measurements at offshore sites

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Højstrup, J. (Intern), Larsen, S. E. (Intern), Barthelmie, R. (Intern)
Publication date: 2002

Host publication information
Title of host publication: Offshore wind energy (CD-ROM)
Place of publication: Brussels
Publisher: European Wind Energy Association (EWEA)
Main Research Area: Technical/natural sciences
Conference: EWEA Offshore Wind Energy Special Topic Conference, Brussels, Belgium, 10/12/2001 - 10/12/2001
Source: orbit
Source-ID: 304027
Publication: Research › Article in proceedings – Annual report year: 2002

Fluxes of water vapour and CO₂

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Hansen, F. (Ekstern), Lund, S. W. (Intern), Larsen, S. E. (Intern)
Publication date: 2002

Host publication information
Title of host publication: AutoFlux. Final report. Appendix A
Place of publication: [s.l.]
Publisher: MAST-3 Programme
Main Research Area: Technical/natural sciences
Links:
http://www.soc.soton.ac.uk/JRD/MET/AUTOFLUX/
Source: orbit
Source-ID: 305139
Publication: Research › Book chapter – Annual report year: 2002

Grænselags- og klimaforskning ved Risø

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 2002
Event: Abstract from 23rd Nordic Meteorologists’ meeting, Copenhagen, Denmark.
Main Research Area: Technical/natural sciences
Interpretation of the effect from the CO₂ buffer system on the air-sea exchange coefficient

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejring Jørgensen, H. (Intern), Larsen, S. E. (Intern), Borges, A. (Ekstern), Frankignoulle, M. (Ekstern)
Publication date: 2002
Main Research Area: Technical/natural sciences
Source: orbit
Publication: Research › Conference abstract for conference – Annual report year: 2002

LUMINY - An overview

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Pages: 291-301
Publication date: 2002
Host publication information
Title of host publication: Gas transfer at water surfaces
Place of publication: Washington, DC
Publisher: American Geophysical Union
Editors: Donelan, M., Drennan, W., Saltzman, E., Wanninkhof, R.
ISBN (Print): 0-87590-986-8
Series: Geophysical Monograph Series, 127
Main Research Area: Technical/natural sciences
Source: orbit
Publication: Research › Book chapter – Annual report year: 2002

Modelling the vertical wind speed and turbulence intensity profiles at prospective offshore wind farm sites

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Hojstrup, J. (Intern), Barthelmie, R. (Intern)
Publication date: 2002
Event: Abstract from 1st WindWorld conference, Berlin, Germany.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 304787
Publication: Research › Conference abstract for conference – Annual report year: 2002

Modelling the vertical wind speed and turbulence intensity profiles at prospective offshore wind farm sites (poster)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Ekstern), Larsen, S. E. (Intern), Hojstrup, J. (Intern), Barthelmie, R. (Intern)
Publication: Research › Conference abstract for conference – Annual report year: 2002
Possible errors in CO₂ air-sea transfer velocity from deliberate tracer releases and eddy covariance measurements due to near-surface concentration gradients

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jacobs, C. (Ekstern), Kjeld, J. (Ekstern), Nightingale, P. (Ekstern), Upstill-Goddard, R. (Ekstern), Larsen, S. E. (Intern), Oost, W. (Ekstern)
Pages: 3128
Publication date: 2002
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Geophysical Research: Oceans
Volume: 107
Issue number: C9
ISSN (Print): 2169-9275
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
BFI (2014): BFI-level 2
BFI (2013): BFI-level 2
ISI indexed (2013): ISI indexed no
BFI (2012): BFI-level 2
BFI (2011): BFI-level 2
BFI (2010): BFI-level 2
BFI (2009): BFI-level 2
BFI (2008): BFI-level 2
Original language: English
Source: orbit
Source-ID: 305274
Publication: Research - peer-review › Journal article – Annual report year: 2003

Response of teh AUTOFLUX sonic temperature sensor, and comparison with the response of the R3 anemometer/thermometer temperature measurements

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Nielsen, M. (Intern), Larsen, S. E. (Intern)
Publication date: 2002

Host publication information
Title of host publication: AutoFlux. Final report. Appendix A
Place of publication: [s.l.]
Publisher: MAST-3 Programme
Main Research Area: Technical/natural sciences
Links:
http://www.soc.soton.ac.uk/JRD/MET/AUTOFLUX/
Source: orbit
Source-ID: 305141
Publication: Research › Book chapter – Annual report year: 2002
Roughness change around a large wind farm

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 2002
Event: Abstract from Symposium on effects of large offshore wind farms on local wind climate, Risø (DK), 23 May, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 304049
Publication: Research › Conference abstract for conference – Annual report year: 2002

Temperature response of the solent R3 ultrasonic anemometer/thermometer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Nielsen, M. (Intern), Larsen, S. E. (Intern)
Publication date: 2002
Host publication information
Title of host publication: AutoFlux. Final report. Appendix A
Place of publication: [s.l.]
Publisher: MAST-3 Programme
Main Research Area: Technical/natural sciences
Links:
http://www.soc.soton.ac.uk/JRD/MET/AUTOFLUX/
Source: orbit
Source-ID: 305140
Publication: Research › Book chapter – Annual report year: 2002

The influence of pulse-firing delays on sonic anemometer response characteristics

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Nielsen, M. (Intern), Larsen, S. E. (Intern)
Pages: 139-142
Publication date: 2002
Host publication information
Title of host publication: Proceedings
Place of publication: Boston, MA
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 304645
Publication: Research › Article in proceedings – Annual report year: 2002

Vindkraftmeteorologi. Metoder, seneste forskningsresultater, anvendelser og perspektiver

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Landberg, L. (Intern), Larsen, S. E. (Intern)
Publication date: 2002
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 304908
Wind Energy Department annual progress report 2001

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Skrumsager, B. (Intern), Larsen, S. E. (Intern), Madsen, P. H. (Intern)
Number of pages: 101
Publication date: 2002

Publication information
ISBN (Print): 87-550-2997-3
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 1317(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-R-1317, Risø-R-1317(EN)
Electronic versions:
ris_r_1317.pdf
Source: orbit
Source-ID: 304674
Publication: Research › Report – Annual report year: 2002

Air-sea exchange of gases

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Nielsen, M. (Intern)
Number of pages: 14
Publication date: 2001

Host publication information
Title of host publication: Wind Energy Department: Scientific and technical progress 1999-2000
Volume: Risø-R-1239(EN)
Editors: Skrumsager, B., Larsen, G.
ISBN (Print): 87-550-2818-7
Main Research Area: Technical/natural sciences
Links:
http://www.risoe.dtu.dk/rispubl/VEA/veapdf/ris-r-1239.pdf
Source: orbit
Source-ID: 303223
Publication: Research › Book chapter – Annual report year: 2001

Atmosfæriske målinger på Mars

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern)
Publication date: 2001

Event: Abstract from Symposium in connection with the start of Danish Centre for Planetary Research, University of Copenhagen, Copenhagen (DK), 1 Feb, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 303667
Publication: Research › Conference abstract for conference – Annual report year: 2001

Atmosfærisk forskning på Mars: Viking, Pathfinder and Netlander
Atmospheric and meteorological instrumentation system for the Netlanders. Scientific objectives and technical implementation

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Pollko, J. (Ekstern), Harri, A. (Ekstern), Calcutt, S. (Ekstern), Crips, D. (Ekstern), Larsen, S. E. (Intern), Pommereau, J. (Ekstern), Lehto, A. (Ekstern), Tillman, J. (Ekstern), Silli, T. (Ekstern)
Publication date: 2001
Event: Abstract from 2nd Netlander Scientific Symposium, Nantes, France.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 303671
Publication: Research › Conference abstract for conference – Annual report year: 2001

Atmospheric transport and exchange (ATU)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 13
Publication date: 2001

Host publication information
Title of host publication: Wind Energy Department: Scientific and technical progress 1999-2000
Volume: Risø-R-1239(EN)
Editors: Skrumsager, B., Larsen, G.
ISBN (Print): 87-550-2818-7
Main Research Area: Technical/natural sciences
Links:
http://www.risoe.dtu.dk/rispubl/VEA/veapdf/ris-r-1239.pdf
Source: orbit
Source-ID: 303222
Publication: Research › Book chapter – Annual report year: 2001

Characteristics of the atmospheric temperature fluctuations near the surface. Expectations from Pathfinder and from Earth observations

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Crips, D. (Ekstern), Harri, A. (Ekstern), Pollko, J. (Ekstern), Pommereau, J. (Ekstern), Tillman, J. (Ekstern)
Publication date: 2001
Event: Abstract from 2nd Netlander Scientific Symposium, Nantes, France.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 303668
Publication: Research › Conference abstract for conference – Annual report year: 2001
Evaluation of empirical relations for the sea surface roughness of fetch-limited wind waves

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Lange, B. (Intern), Højstrup, J. (Ekstern), Larsen, S. E. (Intern)
Publication date: 2001
Event: Abstract from 26th EGS General Assembly, Nice, France.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 302309
Publication: Research › Conference abstract for conference – Annual report year: 2001

Measuring and data technology

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 37
Publication date: 2001

Host publication information
Title of host publication: Wind Energy Department: Scientific and technical progress 1999-2000
Volume: Risø-R-1239(EN)
Editors: Skrumsager, B., Larsen, G.
ISBN (Print): 87-550-2818-7
Main Research Area: Technical/natural sciences
Links:
http://www.risoe.dtu.dk/rispubl/VEA/veapdf/ris-r-1239.pdf
Source: orbit
Source-ID: 303246
Publication: Research › Book chapter – Annual report year: 2001

Modeling concentrations and fluxes of atmospheric CO2 in the North East Atlantic region
As part of the Danish NEAREX project a three-dimensional Eulerian hemispheric air pollution model is used to study the transport and concentrations of atmospheric CO2 in the North East Atlantic region. The model domain covers the major part of the Northern Hemisphere and currently the model includes simple parameterizations of the main sinks and sources for atmospheric CO2. One of the objectives of the project is to study and maybe quantify the relative importance of the various sinks and source types and areas for this region. In order to do so the model has been run with differentiated source types. Here the model setup and the used parameterizations will be described. The model is validated by comparing the results with atmospheric measurements from four monitoring stations in or close to the northern part of the North Atlantic. Some preliminary model results will be shown and shortly discussed. (C) 2001 Elsevier Science Ltd. All rights reserved.

General information
State: Published
Organisations: Rise National Laboratory for Sustainable Energy
Authors: Geels, C. (Ekstern), Christensen, J. (Ekstern), Hansen, A. (Ekstern), Kiilsholm, S. (Ekstern), Larsen, N. (Ekstern), Larsen, S. E. (Intern), Pedersen, T. (Ekstern), Sørensen, L. (Intern)
Pages: 763-768
Publication date: 2001
Main Research Area: Technical/natural sciences

Publication information
Journal: Physics and Chemistry of the Earth Part B: Hydrology, Oceans & Atmosphere
Volume: 26
Issue number: 10
ISSN (Print): 1464-1909
Ratings:
BFI (2008): BFI-level 1
Scopus rating (2004): SJR 0.39 SNIP 0.832
Scopus rating (2003): SJR 0.437 SNIP 0.923
Scopus rating (2002): SJR 0.346 SNIP 0.598
Modification of the near-surface temperature field inland from a coastal discontinuity

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Dunkerley, F. (Intern), Mikkelsen, T. (Intern), Sempreviva, A. (Intern)
Pages: 23-25
Publication date: 2001

Host publication information
Title of host publication: CAPMAN. Coastal Air Pollution Meteorology and Air-Sea Nutrient Exchange. Annual report 2000
Place of publication: München
Publisher: GSF - Forschungszentrum für Umwelt und Gesundheit GmbH. EUROTRAC-2 International Scientific Secretariat (ISS)
Editor: Geernaert, G.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 302862
Publication: Research - peer-review › Journal article – Annual report year: 2001

Monitoring atmospheric climate variables

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jensen, G. (Intern), Hansen, A. (Ekstern), Larsen, S. E. (Intern)
Number of pages: 39
Publication date: 2001

Host publication information
Title of host publication: Wind Energy Department: Scientific and technical progress 1999-2000
Volume: Risø-R-1239(EN)
Editors: Skrumsager, B., Larsen, G.
ISBN (Print): 8-550-2818-7
Main Research Area: Technical/natural sciences
Links:
http://www.risoe.dtu.dk/rispubl/VEA/veapdf/ris-r-1239.pdf
Source: orbit
Source-ID: 302941
Publication: Research › Book chapter – Annual report year: 2001

The atmospheric boundary of Mars from the Pathfinder data

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern)
Number of pages: 49
Publication date: 2001

Host publication information
Title of host publication: Wind Energy Department: Scientific and technical progress 1999-2000
Volume: Risø-R-1239(EN)
Editors: Skrumsager, B., Larsen, G.
The role of surface waves in modulating momentum, heat and chemical flux

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Smedman, A. (Ekstern), Larsen, S. E. (Intern)
Pages: 216-222
Publication date: 2001

Host publication information
Title of host publication: Transport and chemical transformation in the troposphere. Proceedings
Place of publication: Berlin
Publisher: Springer-Verlag
Editors: Midgley, P., Reuther, M., Williams, M.
ISBN (Print): 3-540-41983-7
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 302928
Publication: Research - peer-review › Article in proceedings – Annual report year: 2001

Wind Energy and Atmospheric Physics Department annual progress report for 2000

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (ed.) (Intern), Skrumsager, B. (ed.) (Ekstern)
Number of pages: 99
Publication date: 2001

Publication Information
ISBN (Print): 87-550-2800-4
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 1231(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-R-1231, Risø-R-1231(EN)
Electronic versions:
ris_r_1231.pdf
Source: orbit
Source-ID: 302655
Publication: Research › Report – Annual report year: 2001

Air-sea exchange of CO₂: Relative importance of physical and chemical processes

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Kjeld, J. (Ekstern), Ejsing Jørgensen, H. (Intern)
Publication date: 2000
Event: Abstract from OMEX 1-2 project meeting, Plymouth (GB), 25 Apr, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300783
A note on the dependence of sea surface roughness and wind-waves

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Johnson, H. (Ekstern), Lange, B. (Intern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Kofoed-Hansen, H. (Ekstern)
Publication date: 2000

Host publication information
Title of host publication: Wind-wave interaction in fetch restricted coastal and shallow water environment. Final report
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Editors: Kofoed-Hansen, H., Vested, H., Larsen, S., Hansen, C.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301654
Publication: Research › Book chapter – Annual report year: 2000

ASE: An overview of the Air-Sea Exchange subproject

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 285-293
Publication date: 2000

Host publication information
Title of host publication: Transport and chemical transformation of pollutants in the troposphere. An overview of the work of EUROTRAC
Place of publication: Berlin
Publisher: Springer-Verlag
Editors: Borrell, P., Borrell, P.
ISBN (Print): 3-540-66775-X
Series: Transport and chemical transformation of pollutants in the troposphere, v. 1
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300875
Publication: Research › Book chapter – Annual report year: 2000

Atmosfæriske målinger på Mars

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejstrup Jørgensen, H. (Intern), Larsen, S. E. (Intern)
Pages: 10-17
Publication date: 2000
Main Research Area: Technical/natural sciences

Publication information
Journal: Vejret
Volume: 85
ISSN (Print): 0106-5025
Original language: Danish
Source: orbit
Source-ID: 301883
Publication: Communication › Journal article – Annual report year: 2000
AutoFlux - An autonomous system for monitoring air-sea fluxes using the inertial dissipation method and ship mounted instrumentation. Second annual report, period 1999.08.01 - 2000.07.31

AutoFlux, autonomous system for monitoring air-sea fluxes

"Bluff-body" roughness on the wind-blown sea-surface - a combined wave energy and momentum source
Boundary layer meteorology and wind climatology

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Larsen, S. E. (Intern)
Publication date: 2000
Event: Abstract from Meeting of Danish/Swedish national IGBP/WCRP committees, Lund (SE), 29 Apr, 00.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300784
Publication: Research › Conference abstract for conference – Annual report year: 2000

CAPMAN. Coastal Air Pollution Meteorology and Air-sea Nutrient exchange. Subproject description. EUROTRAC-2

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Geernaert, G. (Ekstern), Leeuw, G. D. (Ekstern), Despiau, S. (Ekstern), Larsen, S. E. (Intern), Noone, K. (Ekstern)
Number of pages: 58
Publication date: 2000

Publication information
Place of publication: Munich
Publisher: GSF-Forschungszentrum für Umwelt und Gesundheit GmbH. International Scientific Secretariat
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301173
Publication: Research › Report – Annual report year: 2000

Characteristics of the atmospheric surface boundary layers on Mars and Earth (solicited paper)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Tillman, J. (Ekstern)
Publication date: 2000

Publication information
Journal: Geophysical Research Abstracts
Volume: 2
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 301013
Publication: Research › Journal article – Annual report year: 2000

Coastal internal boundary layers for passive scalars

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Coastal internal boundary layers for passive scalars

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sempreviva, A. (Intern), Larsen, S. E. (Intern), Frank, H. (Ekstern), Højstrup, J. (Ekstern), Geernaert, G. (Ekstern)
Pages: 48-51
Publication date: 2000

Host publication information
Title of host publication: CAPMAN. Coastal Air Pollution Meteorology and Air-sea Nutrient exchange. Annual report 1999
Place of publication: München
Publisher: GSF - Forschungszentrum für Umwelt und Gesundheit GmbH. EUROTRAC-2 International Scientific Secretariat (ISS)
Editor: Geernaert, G.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301420
Publication: Research › Book chapter – Annual report year: 2000

Concentrations and fluxes of atmospheric CO₂ in the North East Atlantic Region

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Geels, C. (Ekstern), Christensen, J. (Ekstern), Hansen, A. (Ekstern), Kiilsholm, S. (Ekstern), Larsen, N. (Ekstern), Larsen, S. E. (Intern), Pedersen, T. (Ekstern), Sørensen, L. (Intern)
Publication date: 2000
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 2
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 301016
Publication: Research › Journal article – Annual report year: 2000

CO₂ air-sea exchange: Measurements in the North-East Atlantic Region

General information
State: Published
Developing autonomous fluxpackets for measuring the air-sea flux of momentum sensible heat, water vapour and CO$_2$ from voluntary observation ships or buoys

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Pages: 676-679
Publication date: 2000
Host publication information
Title of host publication: Project synopses. Vol. 2: Coastal protection - marine technology
Volume: EUR-19359
ISBN (Print): 92-828-9714-1
Main Research Area: Technical/natural sciences
Links:
http://www.soc.soton.ac.uk/JRD/MET/AUTOFLUX/
Source: orbit
Source-ID: 301612
Publication: Research › Article in proceedings – Annual report year: 2000

Dynamics of inorganic carbon in surface waters off the Galician coast

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Borges, A. (Ekstern), Keir, R. (Ekstern), Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Frankignoule, M. (Ekstern)
Publication date: 2000
Event: Abstract from 32. International Liège colloquium on ocean hydrodynamics, Liège (BE), 8-12 May, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301029
Publication: Research › Conference abstract for conference – Annual report year: 2000

Effects of breaking waves on air-sea gas transfer (LUMINY)

General information
Effects of from the chemistry on the air-sea exchange coefficient of CO₂

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern), Kjeld, J. (Ekstern), Borges, A. (Ekstern), Frankignoulle, M. (Ekstern)
Publication date: 2000

Publication information
Journal: Geophysical Research Abstracts
Volume: 2
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 301015
Publication: Research › Journal article – Annual report year: 2000

Estimates of the CO₂ flux across the air-water interface off the Iberian coast

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Borges, A. (Ekstern), Keir, R. (Ekstern), Frankignoulle, M. (Ekstern), Larsen, S. E. (Intern)
Publication date: 2000
Event: Abstract from OMEX II-II final workshop, Liège (BE), 8-13 May.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301032
Publication: Research › Conference abstract for conference – Annual report year: 2000

Evaluation of meteorological conditions during NOSE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Schulz, M. (Ekstern), Schrader, M. (Ekstern), Larsen, S. E. (Intern), Krüger, O. (Ekstern)
Pages: 20-21
Publication date: 2000
Exchange and transport of air pollutants over complex terrain and the sea

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Fiedler, F. (Ekstern), Borrel, P. (Ekstern)
Number of pages: 357
Publication date: 2000

**Publication information**
Place of publication: Berlin
Publisher: Springer-Verlag
ISBN (Print): 3-540-67438-1
Original language: English

Series: Transport and chemical transformation of pollutants in the troposphere, v. 9
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301467
Publication: Research - peer-review › Book – Annual report year: 2000

Factors determining particle dynamics over the air-sea interface

**General information**
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Pages: 24-31
Flow modification inland from a coastal discontinuity

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sempreviva, A. (Intern), Frank, H. (Ekstern), Larsen, S. E. (Intern)
Pages: 52-54
Publication date: 2000

Host publication information
Title of host publication: CAPMAN. Coastal Air Pollution Meteorology and Air-Sea Nutrient Exchange. Annual report 1999
Place of publication: München
Publisher: GSF - Forschungszentrum für Umwelt und Gesundheit GmbH. EUROTRAC-2 International Scientific Secretariat (ISS)
Editor: Geernaert, G.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301421
Publication: Research › Book chapter – Annual report year: 2000

Fluxes in the marine atmospheric boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Geernaert, L. (Ekstern), Hansen, F. (Ekstern), Hummelshøj, P. (Intern), Jensen, N. (Intern), Edson, J. (Ekstern)
Pages: 48-64
Publication date: 2000

Host publication information
Title of host publication: Exchange and transport of air pollutants over complex terrain and the sea
Place of publication: Berlin
Publisher: Springer-Verlag
Editors: Larsen, S., Fiedler, F., Borrell, P.
ISBN (Print): 3-540-67438-1
Series: Transport and chemical transformation of pollutants in the troposphere, v. 9
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301470
Publication: Research › Book chapter – Annual report year: 2000

Influence of stability effects for wind resource estimations

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Larsen, S. E. (Intern)
Internal boundary layers and scalar fluxes

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Sempreviva, A. M. (Intern), Larsen, S. E. (Intern)
Publication date: 2000
Event: Abstract from EUROTRAC CAPMAN Workshop, Roskilde, Denmark.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300791
Publication: Research › Conference abstract for conference – Annual report year: 2000

Introduction to the Department of Wind Energy and Atmospheric Physics, Risø National Laboratory

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Larsen, S. E. (Intern)
Publication date: 2000
Event: Abstract from Visit from China Meteorological Administration, Roskilde (DK), 23 Jun, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300785
Publication: Research › Conference abstract for conference – Annual report year: 2000

Micrometeorological research at Risø

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Larsen, S. E. (Intern)
Publication date: 2000
Event: Abstract from Visit by the research group, Japan Meteorological Association, Risø (DK), 9 Sep, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300786
Publication: Research › Conference abstract for conference – Annual report year: 2000

Modelling air-sea exchange of carbon dioxide

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Kjeld, J. (Ekstern)
Publication date: 2000
Event: Abstract from Visit by the research group, Japan Meteorological Association, Risø (DK), 9 Sep, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301610
Publication: Research › Book chapter – Annual report year: 2000
New data on the dependence of sea surface roughness and wave age

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Lange, B. (Intern), Johnson, H. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Kofoed-Hansen, H.
(Ekstern)
Publication date: 2000

Host publication information
Title of host publication: Wind-wave interaction in fetch restricted coastal and shallow water environment. Final report
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Editors: Kofoed-Hansen, H., Vested, H., Larsen, S., Hansen, C.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301650
Publication: Research › Book chapter – Annual report year: 2000

Overview of air-sea exchange

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 3-7
Publication date: 2000

Host publication information
Title of host publication: Exchange and transport of air pollutants over complex terrain and the sea
Place of publication: Berlin
Publisher: Springer-Verlag
Editors: Larsen, S., Fiedler, F., Borrell, P.
ISBN (Print): 3-540-67438-1
Series: Transport and chemical transformation of pollutants in the troposphere, v. 9
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 301468
Publication: Research › Book chapter – Annual report year: 2000

Possible consequences of near-surface tracer gradients for the air-sea transfer velocity of CO2: Some results from ASGAMAGE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Wind Energy Division, Meteorology
Authors: Jacobs, C. (Ekstern), Kjeld, J. (Ekstern), Larsen, S. E. (Intern), Oost, W. (Ekstern)
Publication date: 2000
Event: Abstract from Spring meeting of the American Geophysical Union, Boston, MA (US), 1-4 Jun, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300779
Publication: Research › Conference abstract for conference – Annual report year: 2000

Scaling of turbulent spectra in the atmospheric surface layer under stable conditions

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsging Jørgensen, H. (Intern), Larsen, S. E. (Intern), Mann, J. (Intern)
Publication date: 2000
Main Research Area: Technical/natural sciences
Surface fluxes in the climate system (SFINCS)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Bengtsson, L. (Ekstern), Lalas, D. (Ekstern), Roeckner, E. (Ekstern), Perov, V. (Ekstern), Smedman, A. (Ekstern), Zilitinkevic, S. (Ekstern)
Publication date: 2000

Host publication information
Title of host publication: Proceedings (on CD-ROM)
Place of publication: Vienna
Publisher: Austrian Federal Ministry of Science and Transport
Main Research Area: Technical/natural sciences
Conference: European Climate Science Conference, Vienna, Austria, 19/10/1998 - 19/10/1998
Source: orbit
Source-ID: 301154
Publication: Research › Article in proceedings – Annual report year: 2000

The NetLander atmospheric instrument system (ATMIS): Description and performance assessment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Polkko, J. (Ekstern), Harri, A. (Ekstern), Siili, T. (Ekstern), Angrilli, F. (Ekstern), Calcutt, S. (Ekstern), Crisp, D. (Ekstern), Larsen, S. E. (Intern), Pommereau, J. (Ekstern), Stoppato, P. (Ekstern), Lehto, A. (Ekstern), Malique, C. (Ekstern), Tillman, J. (Ekstern)
Pages: 1407-1420
Publication date: 2000
Main Research Area: Technical/natural sciences

Publication information
Volume: 48
Original language: English
Source: orbit
Source-ID: 302198
Publication: Research - peer-review › Journal article – Annual report year: 2001

The role of surface waves in modulating momentum, heat and chemical flux

General information
State: Published
Wind Energy and Atmospheric Physics Department annual progress report 1999

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (ed.) (Intern), Skrumsager, B. (ed.) (Ekstern)
Number of pages: 79
Publication date: 2000

Publication information
ISBN (Print): 87-550-2657-5
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 1161(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-R-1161, Risø-R-1161(EN)
Electronic versions:
ris_r_1161.pdf
Source: orbit
Source-ID: 301998
Publication: Research › Report – Annual report year: 2000

Wind-wave interaction in fetch restricted coastal and shallow water environment. Final report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kofoed-Hansen, H. (Ekstern), Vested, H. (Ekstern), Larsen, S. E. (Intern), Hansen, C. (Ekstern)
Publication date: 2000

Publication information
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300775
Publication: Research › Report – Annual report year: 2000

Air-sea exchange of CO₂

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Kjeld, J. (Ekstern), Larsen, S. E. (Intern)
Pages: 57-63
Publication date: 1999

Host publication information
Title of host publication: Proceedings of a Risø-NERI workshop
Place of publication: Roskilde
Publisher: National Environmental Research Institute
 Editors: Hertel, O., Zlatev, Z., Larsen, S., Mikkelsen, T.
Air-sea gas transfer rates in the presence of breaking waves

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Pages: 446
Publication date: 1999
Main Research Area: Technical/natural sciences
Publication information
Journal: Geophysical Research Abstracts
Volume: 1
ISSN (Print): 1607-7962
Ratings:
- ISI indexed (2013): ISI indexed no
- ISI indexed (2012): ISI indexed no
- ISI indexed (2011): ISI indexed no
- BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 300414
Publication: Research - peer-review › Journal article – Annual report year: 1999

Air-sea-ice interactions

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Brummer, B. (Ekstern), Larsen, S. E. (Intern), Launiainen, J. (Ekstern), Pacyna, J. (Ekstern), Watson, A. (Ekstern)
Pages: 10-13
Publication date: 1999

Host publication information
Title of host publication: Air-sea and sea-ice interactions
Volume: EUR-18638
Editors: Oost, W., Lipiatou, E.
ISBN (Print): 92-828-7142-8
Series: Research in enclosed seas series, 7
Main Research Area: Technical/natural sciences
Workshop: EC Marine Science and Technology Workshop, Brussels, Belgium, 07/01/1999 - 07/01/1999
Source: orbit
Source-ID: 299858
Publication: Research › Article in proceedings – Annual report year: 1999

An EU project SFINCS (surface fluxes in climate system)

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Zilitinkevich, S. (Ekstern)
Atmospheric load of ammonia to coastal waters

General information
State: Published
Organisations: Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Geernaert, L. (Ekstern), Pedersen, B. (Ekstern), Larsen, S. E. (Intern)
Pages: 327-330
Publication date: 1999

Host publication information
Title of host publication: Proceedings. Transport and chemical transformation in the troposphere. Vol. 2
Place of publication: Southampton
Publisher: WIT Press
Editors: Borrell, P., Borrell, P.
ISBN (Print): 1-85312-742-6
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300235
Publication: Research › Article in proceedings – Annual report year: 1999

Atmospheric science experiment for Mars - ATMIS for the Netlander 2005 mission

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Harri, A. (Ekstern), Siiili, T. (Ekstern), Angrilli, F. (Ekstern), Calcutt, S. (Ekstern), Crisp, D. (Ekstern), Larsen, S. E. (Intern), Polkko, J. (Ekstern), Pommereau, J. (Ekstern), Malique, C. (Ekstern), Tillman, J. (Ekstern)
Publication date: 1999
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 299699
Publication: Research › Conference abstract for conference – Annual report year: 1999

Breaking waves and air-sea gas transfer (LUMINY). Final report

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Carbons kredsløb. Den store ubekendte i drivhusproblematikken

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pedersen, T. (Ekstern), Wessel Larsen, N. (Ekstern), Walløe Hansen, A. (Ekstern), Christensen, J. (Ekstern), Killsholm, S. (Ekstern), Sørensen, L. (Intern), Larsen, S. E. (Intern)
Pages: 8-13
Publication date: 1999
Main Research Area: Technical/natural sciences

Dry deposition of small particles to ocean surfaces. A laboratory experiment

General information
State: Published
Organisations: Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Edson, J. (Ekstern), Hummelshøj, P. (Ekstern), Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern), Mestayer, P. (Ekstern)
Pages: 447
Publication date: 1999
Main Research Area: Technical/natural sciences
Effects of breaking waves on air-sea gas transfer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Caulliez, G. (Ekstern), Woolf, D. (Ekstern), Bowyer, P. (Ekstern), Nightingale, P. (Ekstern), Rapsomanikis, S. (Ekstern), Larsen, S. E. (Intern), Spiel, D. (Ekstern)
Pages: 363-370
Publication date: 1999

Host publication information
Title of host publication: Remote sensing of the Pacific Ocean by satellites
Place of publication: Marrickville (NSW)
Publisher: Southwood Press Pty Ltd.
Editor: Brown, R.
ISBN (Print): 0-646-35834-X
Main Research Area: Technical/natural sciences
Source-ID: 298983
Publication: Research › Article in proceedings – Annual report year: 1999

Experimental studies of air pollution in street canyons

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Palmgren, F. (Ekstern), Berkowicz, R. (Ekstern), Egeløv, A. (Ekstern), Hertel, O. (Ekstern), Kemp, K. (Ekstern), Larsen, S. E. (Intern)
Pages: 811-815
Publication date: 1999

Host publication information
Title of host publication: Proceedings. Transport and chemical transformation in the troposphere. Vol. 2
Place of publication: Southampton
Publisher: WIT Press
Editors: Borrell, P., Borrell, P.
ISBN (Print): 1-85312-742-6
Main Research Area: Technical/natural sciences
Source-ID: 300232
Publication: Research › Article in proceedings – Annual report year: 1999

Hav-luftudveksling af næringsstoffer og klimagasser

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern)
Number of pages: 108
Publication date: 1999

Host publication information
Title of host publication: Resumé af foredrag og posters
Place of publication: Roskilde
Publisher: Danmarks Miljøundersøgelser, Miljøministeriet
Editors: Secher, K., Brogaard, L., Thorsted, L.
ISBN (Print): 87-7772-482-8
Main Research Area: Technical/natural sciences
Conference: Konferencen dansk miljøforskning 1999, Copenhagen, Denmark, 19/08/1999 - 19/08/1999
Links:
http://www.dmu.dk/MiljoeKonference1999/online/torsform.htm
Source-ID: 300092
Laboratory studies on the influence of breaking waves on air-sea gas transfer

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Pages: 103-107
Publication date: 1999

Host publication information
Title of host publication: Conference proceedings
Place of publication: Luxembourg
Publisher: Office for Official Publications of the European Communities
Editors: Valentini, R., Brüning, C.
ISBN (Print): 92-828-7437-0
Series: EUR-19085
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 299412

Målunger af CO₂ hav-luftudveksling i den nordøst atlantiske region

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sørensen, L. (Intern), Larsen, S. E. (Intern)
Number of pages: 29
Publication date: 1999
Martian climate variability: Multi-year, in-situ observations of pressure and temperature

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Tillman, J. (Ekstern), Harri, A. (Ekstern), Larsen, S. E. (Intern)
Publication date: 1999
Main Research Area: Technical/natural sciences
Links:
http://www.lpi.usra.edu/meetings/5thMars99/pdf/6156.pdf
Source: orbit
Source-ID: 299700
Publication: Research › Conference abstract for conference – Annual report year: 1999

Measuring and modeling air-sea exchange of carbon dioxide

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Kjeld, J. (Ekstern), Lund, S. W. (Intern), Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern)
Pages: 113-116
Publication date: 1999

Host publication information
Title of host publication: Conference proceedings
Place of publication: Luxembourg
Publisher: Office for Official Publications of the European Communities
Editors: Valentini, R., Brüning, C.
ISBN (Print): 92-828-7437-0
Series: EUR-19085
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 299410
Publication: Research › Article in proceedings – Annual report year: 1999

Measuring and modeling fluxes of especially carbon dioxide in the marine atmospheric surface layer during ASGAMAGE. Final report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Kjeld, J. (Ekstern), Lund, S. W. (Intern)
Pages: 62-74
Publication date: 1999
Microscale processes

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Graham, A. (Ekstern), Jähne, B. (Ekstern), Larsen, S. E. (Intern), Liss, P. (Ekstern), Nightingale, P. (Ekstern), Oost, W. (Ekstern), Woolf, D. (Ekstern)
Pages: 5-9
Publication date: 1999

Modelization of a large wind farm, considering the modification of the atmospheric boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Crespo, A. (Ekstern), Frandsen, S. T. (Intern), Gómez-Elvira, R. (Ekstern), Larsen, S. E. (Intern)
Pages: 1109-1112
Publication date: 1999

Network science landers for Mars
The NetLander Mission will deploy four landers to the Martian surface. Each lander includes a network science payload with instrumentation for studying the interior of Mars, the atmosphere and the subsurface, as well as the ionospheric structure and geodesy. The NetLander Mission is the first planetary mission focusing on investigations of the interior of the planet and the large-scale circulation of the atmosphere. A broad consortium of national space agencies and research laboratories will implement the mission. It is managed by CNES (the French Space Agency), with other major players being FMI (the Finnish Meteorological Institute), DLR (the German Space Agency), and other research institutes.
According to current plans, the NetLander Mission will be launched in 2005 by means of an Ariane V launch, together with the Mars Sample Return mission. The landers will be separated from the spacecraft and targeted to their locations on the Martian surface several days prior to the spacecraft's arrival at Mars. The landing system employs parachutes and airbags. During the baseline mission of one Martian year, the network payloads will conduct simultaneous seismological, atmospheric, magnetic, ionospheric, geodetic measurements and ground penetrating radar mapping supported by panoramic images. The payloads also include entry phase measurements of the atmospheric vertical structure. The scientific data could be combined with simultaneous observations of the atmosphere and surface of Mars by the Mars Express Orbiter that is expected to be functional during the NetLander Mission's operational phase. Communication between the landers and the Earth would take place via a data relay onboard the Mars Express Orbiter. (C) 1999 COSPAR. Published by Elsevier Science Ltd.
Ocean Margin EXchange 2 - Phase 1

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Wollast, R. (Ekstern), Chou, L. (Ekstern), Huthnance, J. (Ekstern), Larsen, S. E. (Intern), Mantoura, F. (Ekstern), Wassmann, P. (Ekstern), Weering, T. V. (Ekstern)
Pages: 451-467
Publication date: 1999

Host publication information
Title of host publication: Project synopses. Vol. 1. Marine systems
Place of publication: Luxembourg
Publisher: Office for Official Publications of the European Communities
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 299015
Publication: Research › Article in proceedings – Annual report year: 1999

Overview of the Mars Pathfinder mission: Launch through landing, surface operations, data sets, and science results

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Pages: 8523-8553
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Geophysical Research: Planets
Volume: 104
ISSN (Print): 1934-8592
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
BFI (2014): BFI-level 2
BFI (2013): BFI-level 2
ISI indexed (2013): ISI indexed no
BFI (2012): BFI-level 2
BFI (2011): BFI-level 2
BFI (2010): BFI-level 2
Parameterizations for the sea surface roughness and the effect on off-shore wind power

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Frank, H. (Intern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern)
Pages: 450
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 1
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 300410
Publication: Research - peer-review → Journal article – Annual report year: 1999

Proceedings of a Risø-NERI workshop

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Hertel, O. (Ekstern), Zlatev, Z. (Ekstern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Number of pages: 136
Publication date: 1999

Publication information
Place of publication: Roskilde
Publisher: National Environmental Research Institute
ISBN (Print): 87-7772-442-9
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 300391
Publication: Research - peer-review → Book – Annual report year: 1999

Recent micrometeorological flux results from platform and ship measurements

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern)
Pages: 449
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 1
Scaling of turbulent spectra in the atmospheric surface layer under strong diabatic conditions

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Larsen, S. E. (Intern), Mann, J. (Intern), Mikkelsen, T. (Intern), Cuxart, J. (Ekstern)
Pages: 436
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 1
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 300411
Publication: Research › Journal article – Annual report year: 1999

Study of flow modification inland from a coast under non-neutral conditions

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sempreviva, A. (Intern), Frank, H. (Intern), Larsen, S. E. (Intern)
Pages: 446
Publication date: 1999
Main Research Area: Technical/natural sciences

Publication information
Journal: Geophysical Research Abstracts
Volume: 1
ISSN (Print): 1607-7962
Ratings:
ISI indexed (2013): ISI indexed no
ISI indexed (2012): ISI indexed no
ISI indexed (2011): ISI indexed no
BFI (2009): BFI-level 1
Original language: English
Source: orbit
Source-ID: 300424
Publication: Research › Journal article – Annual report year: 1999

WA$\text{SP}$ engineering flow model for wind over land and sea
Air-sea CO₂ gas transfer velocity during ASGAMAGE-B

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Kunz, G. (Ekstern), Lund, S. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern), Leeuw, G. D. (Ekstern)
Number of pages: 45
Publication date: 1998

Publication information
Original language: English
Series: FEL-98-C190
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 297423
Publication: Research › Report – Annual report year: 1998

Air-sea exchange of gases: Experiments and modelling

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 293
Publication date: 1998

Host publication information
Title of host publication: Sea-air exchange: Processes and modelling
Volume: EUR-17660
Editors: Pacyna, J., Broman, D., Lipiatou, E.
ISBN (Print): 92-828-2577-9
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 298819
Publication: Research › Conference abstract in proceedings – Annual report year: 1998

Air-sea gas exchange associated with bubble plumes

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Publication date: 1998
Event: Abstract from UK Oceanography ’98, Southampton (GB), 7-11 Sep.,
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 297458
Publication: Research › Conference abstract for conference – Annual report year: 1998

Air-sea interaction in the coastal zone

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Geernaert, G. (Ekstern), Larsen, S. E. (Intern)
Atmospheric load of ammonia to coastal waters

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Geernaert, L. L. (Intern), Pedersen, B. (Ekstern), Larsen, S. E. (Intern)
Publication date: 1998
Event: Abstract from EUROTRAC-2 symposium, Garmisch-Partenkirchen, Germany.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 297521
Publication: Research › Conference abstract for conference – Annual report year: 1998

Atmospheric processes

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Nielsen, O. (Intern)
Number of pages: 43
Publication date: 1998

Host publication information
Title of host publication: 40 years of research at Risø: A platform for the future - interacting with industry and society.
Summary of presentations
Volume: Risø-R-1062(EN,DA)
Editors: Rosendahl, L., Lading, L.
ISBN (Print): 87-550-2407-6
Main Research Area: Technical/natural sciences
Conference: Symposium in celebration of Risø's 40. Anniversary, Risø (DK), 3 Jun, 01/01/1998
Source: orbit
Source-ID: 297994
Publication: Research › Conference abstract in proceedings – Annual report year: 1998

Breaking waves and air-sea gas transfer (LUMINY). Second annual report 1 Feb '97 - 31 Jan '98

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Publication date: 1998

Publication information
Original language: English
Series: FEL-98-C148
Comparison of the turbulent temperature structure of the atmospheric surface layers of Mars and Earth from Pathfinder data

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern), Schofield, J. (Ekstern), Crisp, D. (Ekstern), Wilson, G. (Ekstern), Murphy, J. (Ekstern), Seiff, A. (Ekstern), Tillman, J. (Ekstern)
Pages: F549-F550
Publication date: 1998
Main Research Area: Technical/natural sciences

CO₂ gas concentrations, fluxes and air-sea gas transfer during ASGAMAGE-A

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kunz, G. (Ekstern), Hansen, F. (Ekstern), Lund, S. W. (Intern), Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern)
Publication date: 1998

CO₂ gas concentrations, gradients and air-sea exchange during ASGAMAGE (TNO-FEL results)

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern), Lund, S. (Ekstern)
Pages: 95-104
Publication date: 1998
Detailed wind-wave modelling for restricted fetches. Status report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kofoed-Hansen, H. (Ekstern), Højstrup, J. (Ekstern), Larsen, S. E. (Intern), Hansen, C. (Ekstern)
Publication date: 1998

Publication information
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 297421
Publication: Research - peer-review » Book – Annual report year: 1998

Experimental and modeling study of air-sea exchange of carbon dioxide

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Kjeld, J. (Ekstern), Lund, S. W. (Intern), Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern)
Pages: 116-123
Publication date: 1998

Host publication information
Title of host publication: The ASGAMAGE workshop
Place of publication: De Bilt
Publisher: KNMI
Editor: Oost, W.
ISBN (Print): 90-369-2135-X

Series: KNMI scientific report, WR 98-02
Main Research Area: Technical/natural sciences
Conference: The ASGAMAGE workshop, de Bilt (NL), 22-25 Sep, 01/01/1997
Source: orbit
Source-ID: 298877
Publication: Research » Article in proceedings – Annual report year: 1998

Gases Working Group

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Liss, P. (Ekstern), Grimalt, J. (Ekstern), Hov, Ø. (Ekstern), Johannessen, T. (Ekstern), Larsen, S. E. (Intern), Oost, W. (Ekstern), Leeuw, G. D. (Ekstern)
Pages: 19-22
Publication date: 1998

Host publication information
Title of host publication: Sea-air exchange: Processes and modelling
Volume: EUR-17660
Editors: Pacyna, J., Broman, D., Lipiatou, E.
ISBN (Print): 92-828-2577-9
Main Research Area: Technical/natural sciences
Conference: Workshop, Kjeller (NO), 11-13 Jun, 01/01/1997
Source: orbit
Source-ID: 298773
Publication: Research » Conference abstract in proceedings – Annual report year: 1998
On the dependence of sea surface roughness on wind waves

The influence of wind waves on the momentum transfer (wind stress) between the atmosphere and sea surface was studied using new measured data from the RASEX experiment and other datasets compiled by Donelan et al.

Results of the data analysis indicate that errors in wind friction velocity $u^*$ of about $\pm 10\%$ make it difficult to conclude on the trend in $z(ch)$ using measured data from a particular dataset. This problem is solved by combining different field data together. This gives a trend of decreasing $z(ch)$ with wave age, expressed as: $z(ch) = 1.89(c(p)/u^*)^{-1.59}$.

Furthermore, it is shown that calculations of the wind friction velocities using the wave-spectra-dependent expression of Hansen and Larsen agrees quite well with measured values during RASEX. It also gives a trend in Charnock parameter consistent with that found by combining the field data. Last, calculations using a constant Charnock parameter (0.018) also give very good results for the wind friction velocities at the RASEX site.
On the determination of the neutral drag coefficient in the convective boundary layer

Based on the idea that free convection can be considered as a particular case of forced convection, where the gusts driven by the large-scale eddies are scaled with the Deardorff convective velocity scale, a new formulation for the neutral drag coefficient, C-Dn, in the convective boundary layer (CBL) is derived. It is shown that (i) a concept of C-Dn can still be used under strongly unstable conditions including a pure free-convection regime even when no logarithmic portion in the velocity profile exists; (ii) gustiness corrections must be applied for rational calculations of C-Dn; and (iii) the stratification Psi function used in the derivation of C-Dn should satisfy the theoretical free-convection limit. The new formulation is compared with the traditional relationship for C-Dn, and data collected over the sea (during the Tropical Ocean-Global Atmosphere Coupled Ocean-Atmosphere Response Experiment (TOGA COARE) and the San Clemente Ocean Probing Experiment (SCOPE)) and over land (during the BOREX-95 experiment) are used to illustrate the difference between the new and traditional formulations. Compared to the new approach, the traditional formulation strongly overestimates C-Dn and z(o) in the CBL for mean wind speed less than about 2 m s(-1). The new approach also clarifies several contradictory results from earlier works. Some aspects related to an alternate definition of the neutral drag coefficient and the wind speed and the stress averaging procedure are considered.
Pathfinders atmosfæriske målinger

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Jørgensen, H. (Ekstern)
Pages: 7-10
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Dansk Rumfart
Issue number: 36
Original language: Danish
Source: orbit
Source-ID: 298373
Publication: Communication › Journal article – Annual report year: 1998
Surface fluxes in the climate system

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1998
Event: Abstract from European Climate Science Conference, Vienna, Austria.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 297537
Publication: Research › Conference abstract for conference – Annual report year: 1998

The Martian surface boundary layer: Latest results from Mars Pathfinder

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Wilson, G. (Ekstern), Larsen, S. E. (Intern), Murphy, J. (Ekstern), Seiff, A. (Ekstern), Haberle, R. (Ekstern), Magalhaes, J. (Ekstern), Crisp, D. (Ekstern), Schofield, J. (Ekstern), Barnes, J. (Ekstern)
Pages: C1051
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Annales Geophysicae
Volume: 16
Issue number: Supplement 3
ISSN (Print): 0992-7689
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.105 SNIP 0.926
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.178 SNIP 0.911
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.155 SNIP 1.056
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.393 SNIP 1.163
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.448 SNIP 1.087
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.536 SNIP 0.944
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.343 SNIP 1.093
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.561 SNIP 1.207
Scopus rating (2007): SJR 1.24 SNIP 0.902
Scopus rating (2006): SJR 1.166 SNIP 1.088
Scopus rating (2005): SJR 1.17 SNIP 1.028
Scopus rating (2004): SJR 1.39 SNIP 1.211
Scopus rating (2003): SJR 0.887 SNIP 0.994
Scopus rating (2002): SJR 1.021 SNIP 0.99
Scopus rating (2001): SJR 1.313 SNIP 1.053
Transformation of N-compounds in the marine atmosphere: Aerosols, entrainment and deposition

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Eijk, A. V. (Ekstern), Flossmann, A. (Ekstern), Wobrock, W. (Ekstern), Mestayer, P. (Ekstern), Tranchant, B. L. (Ekstern), Karlsson, R. (Ekstern), Larsen, S. E. (Intern), Roemer, M. (Ekstern), Builtjes, P. (Ekstern)
Pages: 128
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Environmental Science and Pollution Research
Volume: 5
ISSN (Print): 0944-1344
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.886 SNIP 0.952
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 0.958 SNIP 1.165
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.881 SNIP 1.162
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.018 SNIP 1.242
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.142 SNIP 1.101
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.094 SNIP 1.041
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.029 SNIP 1.023
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 0.934 SNIP 1.023
Scopus rating (2007): SJR 0.818 SNIP 0.978
Scopus rating (2006): SJR 0.453 SNIP 0.603
Scopus rating (2005): SJR 0.584 SNIP 0.957
Scopus rating (2004): SJR 0.777 SNIP 1.007
Scopus rating (2003): SJR 0.557 SNIP 0.75
Scopus rating (2002): SJR 0.61 SNIP 0.938
Scopus rating (2001): SJR 0.559 SNIP 0.658
Scopus rating (2000): SJR 0.704 SNIP 0.858
Scopus rating (1999): SJR 0.839 SNIP 0.966
Original language: English
Source: orbit
Source-ID: 298407
Publication: Research - peer-review › Journal article – Annual report year: 1998
Turbulence moments and spectra in the Martian atmospheric surface boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Ejsing Jørgensen, H. (Intern), Landberg, L. (Intern), Larsen, S. E. (Intern), Murphy, J. (Ekstern), Tillman, J. (Ekstern), Wilson, G. (Ekstern)
Pages: C1048
Publication date: 1998
Main Research Area: Technical/natural sciences

Publication information
Journal: Annales Geophysicae
Volume: 16
Issue number: Supplement 3
ISSN (Print): 0992-7689
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.105 SNIP 0.926
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.178 SNIP 0.911
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.155 SNIP 1.056
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.393 SNIP 1.163
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.448 SNIP 1.087
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.536 SNIP 0.944
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.343 SNIP 1.093
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.561 SNIP 1.207
Scopus rating (2007): SJR 1.24 SNIP 0.902
Scopus rating (2006): SJR 1.166 SNIP 1.088
Scopus rating (2005): SJR 1.17 SNIP 1.028
Scopus rating (2004): SJR 1.39 SNIP 1.211
Scopus rating (2003): SJR 0.887 SNIP 0.994
Scopus rating (2002): SJR 1.021 SNIP 0.99
Scopus rating (2001): SJR 1.313 SNIP 1.053
Scopus rating (2000): SJR 1.449 SNIP 0.962
Scopus rating (1999): SJR 1.259 SNIP 1.01
Original language: English
Source: orbit
Source-ID: 297463
Publication: Research - peer-review › Conference abstract in journal – Annual report year: 1998

Vind og bølger

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Vested, H. (Ekstern), Johnson, H. (Ekstern), Højstrup, J. (Ekstern), Larsen, S. E. (Intern)
Air-sea exchange of CO$_2$ different estimation techniques

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kjeld, J. (Ekstern), Larsen, S. E. (Intern)
Pages: C414
Publication date: 1997
Main Research Area: Technical/natural sciences

Publication information
Journal: Annales Geophysicae
Volume: 15
Issue number: Supplement 2
ISSN (Print): 0992-7689
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.105 SNIP 0.926
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.178 SNIP 0.911
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.155 SNIP 1.056
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.393 SNIP 1.163
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.448 SNIP 1.087
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.536 SNIP 0.944
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.343 SNIP 1.093
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.561 SNIP 1.207
Scopus rating (2007): SJR 1.24 SNIP 0.902
Scopus rating (2006): SJR 1.166 SNIP 1.088
Scopus rating (2005): SJR 1.17 SNIP 1.028
Scopus rating (2004): SJR 1.39 SNIP 1.211
Scopus rating (2003): SJR 0.887 SNIP 0.994
Scopus rating (2002): SJR 1.021 SNIP 0.99
Scopus rating (2001): SJR 1.313 SNIP 1.053
Scopus rating (2000): SJR 1.449 SNIP 0.962
Scopus rating (1999): SJR 1.259 SNIP 1.01
Original language: English
Source: orbit
Air-sea exchange of gases: Experiments and modelling

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Kjeld, J. (Ekstern), Lund, S. (Ekstern), Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern)
Publication date: 1997
Event: Abstract from International Workshop on Greenhouse Gases and Their Role in Climate Change, Orvieto, Italy.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 295903
Publication: Research › Conference abstract for conference – Annual report year: 1997

Bølgene og vinden

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Højstrup, J. (Ekstern), Larsen, S. E. (Intern)
Pages: 12-13
Publication date: 1997
Main Research Area: Technical/natural sciences

Publication information
Journal: Risønyt
Issue number: 4
Original language: Danish
Source: orbit
Source-ID: 296527
Publication: Communication › Journal article – Annual report year: 1997

Breaking waves and air-sea gas transfer: The Luminy project

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Woolf, D. (Ekstern), Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Gaulliez, G. (Ekstern), Bowyer, P. (Ekstern), Nightingale, P. (Ekstern), Rapsomanikis, S. (Ekstern)
Pages: C415
Publication date: 1997
Main Research Area: Technical/natural sciences

Publication information
Journal: Annales Geophysicae
Volume: 15
Issue number: Supplement 2
ISSN (Print): 0992-7689
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.105 SNIP 0.926
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.178 SNIP 0.911
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.155 SNIP 1.056
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Diffusion model for air-sea exchange of CO₂ case study results

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kjeld, J. (Ekstern), Larsen, S. E. (Intern), Ejsing Jørgensen, H. (Intern)
Publication date: 1997
Event: Abstract from 3. Conference on exchange processes for the continent/ocean margins in the North Atlantic, Vigo (ES), 14-16 May,
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 296037
Publication: Research › Conference abstract for conference – Annual report year: 1997

Effect of breaking waves on air-sea gas exchange

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Caulliez, G. (Ekstern), Woolf, D. (Ekstern), Bowyer, P. (Ekstern), Nightingale, P. (Ekstern), Rapsomanikis, S. (Ekstern), Larsen, S. E. (Intern), Spiel, D. (Ekstern)
Publication date: 1997
Event: Abstract from PORSEC, Victoria, Canada.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 295906
Publication: Research › Conference abstract for conference – Annual report year: 1997

Further work on the Kitaigorodskii roughness length model: A new derivation using Lettau's expression on steep waves

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Hansen, C. (Ekstern), Larsen, S. E. (Intern)
Measurement of fluxes of momentum, heat, water vapor and CO₂ over water by inertial dissipation and co-spectral estimation

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern)
Pages: C438
Publication date: 1997
Main Research Area: Technical/natural sciences

Publication information
Journal: Annales Geophysicae
Volume: 15
ISSN (Print): 0992-7689
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.105 SNIP 0.926
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.178 SNIP 0.911
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.155 SNIP 1.056
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.393 SNIP 1.163
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.448 SNIP 1.087
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.536 SNIP 0.944
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.343 SNIP 1.093
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.561 SNIP 1.207
Scopus rating (2007): SJR 1.24 SNIP 0.902
Scopus rating (2006): SJR 1.166 SNIP 1.088
Scopus rating (2005): SJR 1.17 SNIP 1.028
Scopus rating (2004): SJR 1.39 SNIP 1.211
Scopus rating (2003): SJR 0.887 SNIP 0.994
Scopus rating (2002): SJR 1.021 SNIP 0.99
Scopus rating (2001): SJR 1.313 SNIP 1.053
Scopus rating (2000): SJR 1.449 SNIP 0.962
Scopus rating (1999): SJR 1.259 SNIP 1.01
Meteorological aspects of offshore wind energy: Observations from the Vindeby wind farm

Modelling the atmospheric nitrogen deposition to Løgstør Bredning. Model results for the periods April 17 to 30 and August 7 to 19, 1995
Modelling traffic pollution in streets

General information
State: Published
Organisations: Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Berkowicz, R. (Ekstern), Hertel, O. (Ekstern), Larsen, S. E. (Intern), Sørensen, N. N. (Intern), Nielsen, M. (Ekstern)
Number of pages: 51
Publication date: 1997

Publication information
Place of publication: Roskilde
Publisher: National Environmental Research Institute
Original language: English
Main Research Area: Technical/natural sciences
Electronic versions:
Modelling_traffic_pollution_in_streets.pdf
Source: orbit
Source-ID: 297361
Publication: Research - peer-review › Book – Annual report year: 1997

The Mars Pathfinder atmospheric structure investigation/meteorology (ASI/MET) experiment

The Mars Pathfinder atmospheric structure investigation/meteorology (ASI/MET) experiment measured the vertical density, pressure, and temperature structure of the martian atmosphere from the surface to 160 km, and monitored surface meteorology and climate for 83 sols (1 sol = 1 martian day = 24.7 hours). The atmospheric structure and the weather record are similar to those observed by the Viking 1 lander (VL-1) at the same latitude, altitude, and season 21 years ago, but there are differences related to diurnal effects and the surface properties of the landing site. These include a cold nighttime upper atmosphere; atmospheric temperatures that are 10 to 12 degrees kelvin warmer near the surface; light slope-controlled winds; and dust devils, identified by their pressure, wind, and temperature signatures. The results are consistent with the warm, moderately dusty atmosphere seen by VL-1.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Schofield, J. (Ekstern), Barnes, J. (Ekstern), Crisp, D. (Ekstern), Haberle, R. (Ekstern), Larsen, S. E. (Intern), Magalhães, J. (Ekstern), Murphy, J. (Ekstern), Seiff, A. (Ekstern), Wilson, G. (Ekstern)
Pages: 1752-1758
Publication date: 1997
Main Research Area: Technical/natural sciences

Publication information
Journal: Science
Volume: 278
Issue number: 5344
ISSN (Print): 0036-8075
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
The martian surface boundary layer: Results from Mars Pathfinder

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Wilson, G. (Ekstern), Larsen, S. E. (Intern), Landberg, L. (Intern), Murphy, J. (Ekstern), Seiff, A. (Ekstern), Haberle, R. (Ekstern), Magalhães, J. (Ekstern), Crisp, D. (Ekstern), Schofield, J. (Ekstern), Barnes, J. (Ekstern)
Publication date: 1997
Event: Abstract from Fall Meeting of the American Geophysical Union 1997, San Francisco, CA, United States.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 296463
Publication: Research › Journal article – Annual report year: 1997

The mechanisms and latest knowledge of atmospheric transport and exchange of gases and particles with the biosphere

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1997
Event: Abstract from Meeting on air quality and combustion processes, Copenhagen (DK), 20 Feb.
Main Research Area: Technical/natural sciences
Source: orbit
The spectral results from Kansas, subsequent advances and remaining problems

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1997
Event: Abstract from Kansas field experiment 30. anniversary commemorative session, American Meteorological Society, 12. conference on boundary layer and turbulence, Vancouver (CA), 28 Jul - 1 Aug.
Main Research Area: Technical/natural sciences
Source: orbit

The weather on Mars estimated from the Viking data

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1997
Event: Abstract from Department of planetary research and space based astronomy. Danish Society for Space Research, Tycho Brahe Observatory and Astronomic Society, H.C. Ørsted Institute, Copenhagen (DK), 13 Feb.
Main Research Area: Technical/natural sciences
Source: orbit

Transformation and vertical fluxes of N-compounds in the marine atmosphere

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Eijk, A. V. (Ekstern), Flossmann, A. (Ekstern), Wobrock, W. (Ekstern), Mestayer, P. (Ekstern), Tranchant, B. (Ekstern), Ljungstrøm, E. (Ekstern), Karlsson, R. (Ekstern), Larsen, S. E. (Intern), Roemer, M. (Ekstern), Builtjes, P. (Ekstern)
Pages: 195-198
Publication date: 1997

Host publication information
Title of host publication: Transport and transformation of pollutants in the troposphere. Vol. 1: Clouds, aerosols, modelling and photo-oxidants. Proceedings
Place of publication: Southampton
Publisher: Computational Mechanics Publications
Editors: Borrell, P., Borrell, P., Kelly, K., Cvitas, T., Seiler, W.
Main Research Area: Technical/natural sciences
Conference: EUROTRAC Symposium '96, Garmisch-Partenkirchen, Germany, 25/03/1996 - 25/03/1996
Source: orbit

Air-sea exchange

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1996
Event: Abstract from Workshop on atmospheric deposition and surface exchange, Roskilde, Denmark.
Main Research Area: Technical/natural sciences
Atmospheric processes

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Asman, W. (Ekstern), Larsen, S. E. (Intern)
Pages: 21-50
Publication date: 1996

Host publication information
Title of host publication: Eutrophication in coastal marine ecosystems
Place of publication: Washington, DC
Publisher: American Geophysical Union
Series: Coastal and Estuarine Studies, 52
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294947
Publication: Research › Book chapter – Annual report year: 1996

Atmospheric work at Risø National Laboratory

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1996
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294406
Publication: Research › Conference abstract for conference – Annual report year: 1996

Diffusion and dispersion studies at the Department of Meteorology and Wind Energy

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1996
Event: Abstract from Chinese meteorologist delegation, Risø (DK), 25 Sep, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294405
Publication: Research › Conference abstract for conference – Annual report year: 1996

Effects of breaking waves on air-sea exchange gas transfer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Gaulliez, G. (Ekstern), Woolf, D. (Ekstern), Bowyer, P. (Ekstern), Nightingale, P. (Ekstern), Rapsomanikis, S. (Ekstern), Larsen, S. E. (Intern), Spiel, D. (Ekstern)
Publication date: 1996
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294470
Estimering af kvælstofdepositionen til Løgstør Bredning

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Runge, E. (Ekstern), Hertel, O. (Ekstern), Frohn, L. (Ekstern), Sørensen, J. (Ekstern), Larsen, S. E. (Intern)
Pages: 15-17
Publication date: 1996
Main Research Area: Technical/natural sciences

Publication information
Journal: Miljøforskning
Issue number: 23
ISSN (Print): 0907-4678
Original language: Danish
Source: orbit
Source-ID: 295606
Publication: Communication › Journal article – Annual report year: 1996

Executive summary of scientific achievements

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1996

Host publication information
Title of host publication: Ocean Margin EXchange OMEX. Final report subproject F: Carbon cycling and biogases
Place of publication: Brussels
Publisher: Université Libre de Bruxelles (ULB)
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294457
Publication: Research › Book chapter – Annual report year: 1996

Further work on the Kitaigorodskii roughness length model: A new derivation using Lettaus's expression on steep waves

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Hansen, C. (Ekstern), Larsen, S. E. (Intern)
Publication date: 1996

Host publication information
Title of host publication: On wind-wave interaction in coastal and shallow waters
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Series: Risø Air-Sea Exchange, 8074
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294438
Publication: Research › Book chapter – Annual report year: 1996

Havmiljøet under forandring? Konklusioner og perspektiver fra Havforskningsprogram 90

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Bondo Christensen, P. (ed.) (Ekstern), Møhlenberg, F. (Ekstern), Lund-Hansen, L. (Ekstern), Borum, J. (Ekstern), Christiansen, C. (Ekstern), Larsen, S. E. (Intern), Hansen, M. (Ekstern), Andersen, J. (Ekstern), Kirkegaard, J. (Ekstern)
Measurements on air-sea exchange of CO₂

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Pages: C447
Publication date: 1996
Main Research Area: Technical/natural sciences

Publication information
Journal: Annales Geophysicsae
Volume: 14
Issue number: Supplement 2
ISSN (Print): 0992-7689
Ratings:
- BFI (2017): BFI-level 1
- BFI (2015): BFI-level 1
- Scopus rating (2015): SJR 1.105 SNIP 0.926
- BFI (2014): BFI-level 1
- Scopus rating (2014): SJR 1.178 SNIP 0.911
- BFI (2013): BFI-level 1
- Scopus rating (2013): SJR 1.155 SNIP 1.056
- ISI indexed (2013): ISI indexed yes
- BFI (2012): BFI-level 1
- Scopus rating (2012): SJR 1.393 SNIP 1.163
- ISI indexed (2012): ISI indexed yes
- BFI (2011): BFI-level 1
- Scopus rating (2011): SJR 1.448 SNIP 1.087
- ISI indexed (2011): ISI indexed yes
- BFI (2010): BFI-level 1
- Scopus rating (2010): SJR 1.536 SNIP 0.944
- BFI (2009): BFI-level 1
- Scopus rating (2009): SJR 1.343 SNIP 1.093
- BFI (2008): BFI-level 1
- Scopus rating (2008): SJR 1.561 SNIP 1.207
- Scopus rating (2007): SJR 1.24 SNIP 0.902
- Scopus rating (2006): SJR 1.166 SNIP 1.088
- Scopus rating (2005): SJR 1.17 SNIP 1.028
- Scopus rating (2004): SJR 1.39 SNIP 1.211
- Scopus rating (2003): SJR 0.887 SNIP 0.994
- Scopus rating (2002): SJR 1.021 SNIP 0.99
- Scopus rating (2001): SJR 1.313 SNIP 1.053
- Scopus rating (2000): SJR 1.449 SNIP 0.962
Micrometeorological estimation of fluxes of CO$_2$, heat, humidity and momentum in the marine atmospheric surface layer during OMEX

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern)
Publication date: 1996

Host publication information
Title of host publication: Ocean Margin EXchange OMEX. Final report subproject F: Carbon cycling and biogases
Place of publication: Brussels
Publisher: Université Libre de Bruxelles (ULB)
Main Research Area: Technical/natural sciences
Publication date: 1996

Micrometeorological fluxes of CO$_2$, bubbles, heat, humidity and momentum in the marine atmospheric surface layer during OMEX

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern)
Pages: 47-48
Publication date: 1996

Host publication information
Title of host publication: Ocean Margin EXchange OMEX final annual workshop. Abstracts with programme
Place of publication: Brussels
Publisher: Université Libre de Bruxelles (ULB)
Main Research Area: Technical/natural sciences
Conference: OMEX final annual workshop, Brussels (BE), 20-22 May, 01/01/1996
Source: orbit
Publication date: 1996

N-compounds in the marine atmosphere: transformation, aerosols, entrainment and deposition (NTRANS); 1994 progress

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Flossmann, A. (Ekstern), Ljungström, E. (Ekstern), Mestayer, P. (Ekstern), Larsen, S. E. (Intern), Builtes, P. (Ekstern)
Publication date: 1996

Publication information
Original language: English
Series: TNO-FEL-95-C310
Main Research Area: Technical/natural sciences
Source: orbit
Publication date: 1996
Objectives and main results obtained

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Sørensen, L. (Intern)
Pages: 34-37
Publication date: 1996

Host publication information
Title of host publication: N-compounds in the marine atmosphere: transformation, aerosols, entrainment and deposition (NTRANS); 1994 progress
Volume: TNO-FEL-95-C310
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294521
Publication: Research › Book chapter – Annual report year: 1996

On the dependence of sea surface roughness on wind waves

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Johnson, H. (Ekstern), Vested, H. (Ekstern), Højstrup, J. (Ekstern), Larsen, S. E. (Intern)
Publication date: 1996

Host publication information
Title of host publication: On wind-wave interaction in coastal and shallow waters
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Series: Risø Air-Sea Exchange, 8074
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294437
Publication: Research › Book chapter – Annual report year: 1996

On wind-wave interaction in coastal and shallow waters

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Johnson, H. (Ekstern), Vested, H. (Ekstern), Larsen, S. E. (Intern), Højstrup, J. (Ekstern)
Publication date: 1996

Publication information
Place of publication: Hørsholm
Publisher: Danish Hydraulic Institute
Original language: English
Series: Risø Air-Sea Exchange, 8074
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 295473
Publication: Research - peer-review › Book – Annual report year: 1996

Over-water CO₂ flux measurements

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Publication date: 1996
Event: Abstract from International Congress on Environment/Climate, Rome, Italy.
Physical parameters controlling fluxes in the marine atmospheric surface layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Publication date: 1996

Host publication information
Title of host publication: Ocean Margin EXchange OMEX. Final report subproject F: Carbon cycling and biogases
Place of publication: Brussels
Publisher: Université Libre de Bruxelles (ULB)
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294436
Publication: Research - peer-review › Book chapter – Annual report year: 1996

Planeten Mars er jordens fjerneste meteorologistation

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Landberg, L. (Intern)
Pages: 6-7
Publication date: 1996
Main Research Area: Technical/natural sciences

Publication information
Journal: Risønyt
Issue number: 3
Original language: Danish
Source: orbit
Source-ID: 295086
Publication: Communication › Journal article – Annual report year: 1996

Roughness and the wave spectrum

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Højstrup, J. (Ekstern), Hansen, C. (Ekstern)
Pages: OS109
Publication date: 1996
Main Research Area: Technical/natural sciences

Publication information
Volume: 76
Issue number: 3
Original language: English
Source: orbit
Source-ID: 294440
Publication: Research › Journal article – Annual report year: 1996

Since the Risø workshop

General information
State: Published
The Department of Meteorology and Wind Energy

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1996
Event: Abstract from Annual meeting of the Danish Meteorological Society, Risø (DK), 16 Mar, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294404
Publication: Research › Conference abstract for conference – Annual report year: 1996

The research of Sergej Zilitinkevich and its influence on boundary-layer meteorology after 1990

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1996
Event: Abstract from Symposium in honour of Sergej Zilitinkevich, Bremerhaven (DE), 3 May, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 294428
Publication: Research › Conference abstract for conference – Annual report year: 1996

Carbon cycling and biogases within the OMEX project

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1995
Event: Abstract from 2nd MAST days and EUROMAR market, Sorrento, Italy.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292931
Publication: Research › Conference abstract for conference – Annual report year: 1995

Climatological research at Risø

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1995
Event: Abstract from Seminar on applied climatological research. Earth Science Center. University of Gothenburg, Gothenburg (SE), Sep, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 293438
Publication: Research › Conference abstract for conference – Annual report year: 1995
CO₂-flux measurements over the water

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Publication date: 1995
Event: Abstract from 2nd MAST days and EUROMAR market, Sorrento, Italy.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292930
Publication: Research › Conference abstract for conference – Annual report year: 1995

Dry deposition of particles to ocean surfaces

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Edson, J. (Ekstern), Hummelshøj, P. (Intern), Jensen, N. O. (Intern), Leeuw, G. D. (Ekstern), Mestayer, P. (Ekstern)
Pages: 193-204
Publication date: 1995
Main Research Area: Technical/natural sciences
Publication information
Journal: Ophelia
Volume: 42
ISSN (Print): 0078-5326
Ratings:
BFI (2008): BFI-level 1
Scopus rating (2007): SJR 0.388 SNIP 0.65
Scopus rating (2006): SJR 0.394 SNIP 0.748
Scopus rating (2005): SJR 0.379 SNIP 0.661
Scopus rating (2004): SJR 0.469 SNIP 0.547
Scopus rating (2003): SJR 0.588 SNIP 0.653
Scopus rating (2002): SJR 0.496 SNIP 0.695
Scopus rating (2001): SJR 0.598 SNIP 1.006
Scopus rating (2000): SJR 0.634 SNIP 1.358
Scopus rating (1999): SJR 1.093 SNIP 1.045
Original language: English
Source: orbit
Source-ID: 293609
Publication: Research › Journal article – Annual report year: 1995

Eddy correlation fluxes of momentum, heat, water vapor and CO₂ during ASGASEX

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Pages: 12-16
Publication date: 1995

Host publication information
Title of host publication: Report of the ASGASEX ’94 workshop
Volume: KNMI-TR-174
Editor: Oost, W.
Main Research Area: Technical/natural sciences
Conference: ASGASEX ’94 workshop, De Bilt (NL), 3-5 Oct, 01/01/1994
Source: orbit
Source-ID: 292942
Publication: Research › Article in proceedings – Annual report year: 1995
Flows and mixing within a street canyon

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Lund, S. (Ekstern), Nielsen, M. (Intern), Sørensen, N. N. (Intern)
Publication date: 1995

Host publication information
Title of host publication: Highway and urban pollution. Abstracts
Place of publication: Middlesex
Publisher: Middlesex University
Main Research Area: Technical/natural sciences
Conference: 5th International Symposium. WHO/EURO, Copenhagen, Denmark, 22/05/1995 - 22/05/1995
Source: orbit
Source-ID: 293985
Publication: Research › Conference abstract in proceedings – Annual report year: 1995

Over-water eddy correlation measurements of fluxes of momentum, heat, water vapor and CO₂

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kunz, G. (Ekstern), Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Pages: 685-701
Publication date: 1995

Host publication information
Title of host publication: Air-water gas transfer
Place of publication: Hanau
Publisher: Aeon Verlag und Studio
Editors: Jähne, B., Monahan, E.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292928
Publication: Research › Article in proceedings – Annual report year: 1995

Physical flux-characterisation and measurements of CO₂ fluxes over sea

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Publication date: 1995
Event: Abstract from 2. EU workshop on exchange processes at the continent/ocean margins in the North Atlantic, Knokke (BE), 22-24 Feb, .
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292934
Publication: Research › Conference abstract for conference – Annual report year: 1995

Physical parameters controlling fluxes in the marine atmospheric surface layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern)
Publication date: 1995

Host publication information
Title of host publication: Ocean Margin EXchange (OMEX). Second annual report
Ship measurements of CO₂ fluxes by means of eddy correlation and dissipation during OMEX

**General information**

State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1995
Event: Abstract from MAGE-EUROTRAC Workshop on Marine Gas and Aerosol Exchange, Mainz, Germany.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292933
Publication: Research › Conference abstract for conference – Annual report year: 1995

The boundary layer of Mars: Fluxes, stability, turbulent spectra and growth of the mixed layer

**General information**

State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Landberg, L. (Intern), Larsen, S. E. (Intern), Tillman, J. (Eksterne)
Number of pages: 54
Publication date: 1995

**Publication information**

ISBN (Print): 87-550-1915-3
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 701(EN)
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-R-701, Risø-R-701(EN)
Electronic versions:
ris_r_701.pdf
Source: orbit
Source-ID: 293627
Publication: Research › Report – Annual report year: 1995

Transformation and removal of N-compounds in the marine atmosphere

**General information**

State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 51-55
Publication date: 1995

**Host publication information**

Title of host publication: Tropospheric processes and air quality
Place of publication: Luxembourg
Publisher: European Communities
Editors: Bras, G. L., Angeletti, G.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292941
Publication: Research › Book chapter – Annual report year: 1995
Factors determining particle dynamics over the air-sea interface

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Pages: 32-38
Publication date: 1994

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1992. Part 3. ASE
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 291490
Publication: Research › Book chapter – Annual report year: 1994

Factors determining particle dynamics over the air-sea interface: 1993 progress report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Pages: 30-39
Publication date: 1994

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1993. Part 3. ASE. Air-Sea Exchange
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 292058
Publication: Research › Book chapter – Annual report year: 1994

Fluxes in the marine atmospheric boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Hummelshøj, P. (Intern), Jensen, N. (Intern), Edson, J. (Ekstern)
Pages: 88-93
Publication date: 1994
Fluxes in the marine atmospheric boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hansen, F. (Ekstern), Hummelshøj, P. (Intern), Jensen, N. (Intern)
Pages: 86-93
Publication date: 1994

Measurements of CO2 fluxes and bubbles from a tower during ASGASEX

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Kunz, G. (Ekstern), Larsen, S. E. (Intern), Hansen, F. (Ekstern)
Pages: 267-268
Publication date: 1994

Measurements of Humidity and temperature in the marine environment during the HEXOS main experiment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Katsaros, K. (Ekstern), DeCosmo, J. (Ekstern), Lind, R. (Ekstern), Anderson, R. (Ekstern), Smith, S. (Ekstern), Kraan, R. (Ekstern), Oost, W. (Ekstern), Uhlig, K. (Ekstern), Mestayer, P. (Ekstern), Larsen, S. E. (Intern), Smith, M. (Ekstern), Leeuw, G. D. (Ekstern)
Pages: 964-981
Publication date: 1994
Main Research Area: Technical/natural sciences

The boundary layer of Mars: Fluxes, stability, turbulent spectra, and growth of the mixed layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Tillman, J. (Ekstern), Landberg, L. (Intern), Larsen, S. E. (Intern)
Pages: 1709-1727
Publication date: 1994
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of the Atmospheric Sciences
Volume: 51
ISSN (Print): 0022-4928
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 3.227 SNIP 1.353
BFI (2014): BFI-level 1
BFI (2013): BFI-level 1
The change of aerosol size distributions measured in a Lagrangian-type experiment to study deposition and transport processes in the marine atmosphere. A contribution to subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Schulz, M. (Ekstern), Stahlschmidt, T. (Ekstern), Francois, F. (Ekstern), Maenhaut, W. (Ekstern), Larsen, S. E. (Intern)
Pages: 702-706
Publication date: 1994

Host publication information
Title of host publication: Transport and transformation of pollutants in the troposphere. Proceedings
Place of publication: Den Haag
Publisher: SPB Academic Publishing
Editors: Borrell, P., Borrell, P., Cvitas, T., Seiler, W.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 291912
Publication: Research › Article in proceedings – Annual report year: 1994

Tørdeponering af luftbårne partikler til havoverflader

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hummelshøj, P. (Intern), Jensen, N. O. (Intern), Edson, J. (Ekstern), Leeuw, G. D. (Ekstern), Mestayer, P. (Ekstern)
Number of pages: 79
Publication date: 1994
Air to sea deposition of gases and particles. A contribution to subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 689-692
Publication date: 1993

Host publication information
Title of host publication: Photo-oxidants: Precursors and products. Proceedings
Place of publication: Den Haag
Publisher: SPA Academic Publishing
Editors: Borrell, P., Borrell, P., Cvitas, T., Seiler, W.
Main Research Area: Technical/natural sciences
Conference: EUROTRAC Symposium 92, Garmisch-Partenkirchen, Germany, 23/03/1992 - 23/03/1992
Source: orbit
Source-ID: 291454
Publication: Research › Article in proceedings – Annual report year: 1993

ASE 1992

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 125-129
Publication date: 1993

Host publication information
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 290718
Publication: Research › Book chapter – Annual report year: 1993

Deposition of nitrogen compounds to Danish coastal water. A contribution to subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Pages: 779-782
Publication date: 1993

Host publication information
Title of host publication: Photo-oxidants: Precursors and products. Proceedings
Place of publication: Den Haag
Measurement of temperature spectra by a sonic anemometer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Edson, J. (Ekstern), Fairall, C. (Ekstern), Mestayer, P. (Ekstern)
Pages: 345-354
Publication date: 1993
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Atmospheric and Oceanic Technology
Volume: 10
ISSN (Print): 0739-0572
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.468 SNIP 1.191
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.337 SNIP 1.249
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.645 SNIP 1.408
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 2.109 SNIP 1.637
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.984 SNIP 1.441
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.759 SNIP 1.268
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.669 SNIP 1.325
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.75 SNIP 1.442
Scopus rating (2007): SJR 1.799 SNIP 1.419
Scopus rating (2006): SJR 1.566 SNIP 1.487
Scopus rating (2005): SJR 2.135 SNIP 1.549
Scopus rating (2004): SJR 2.217 SNIP 1.732
Scopus rating (2003): SJR 1.759 SNIP 1.512
Scopus rating (2002): SJR 1.592 SNIP 1.387
Scopus rating (2001): SJR 1.578 SNIP 1.293
Scopus rating (2000): SJR 1.569 SNIP 1.162
Scopus rating (1999): SJR 1.521 SNIP 1.137
Original language: English
Source: orbit
Source-ID: 291132
Publication: Research - peer-review › Journal article – Annual report year: 1993
Mikrometeorologisk teknik i luftforureningsforskning

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Pilegaard, K. (Intern), Larsen, S. E. (Intern)
Pages: 12-14
Publication date: 1993
Main Research Area: Technical/natural sciences

Publication information
Journal: Miljøforskning
Issue number: 7
ISSN (Print): 0907-4678
Original language: Danish
Source: orbit
Source-ID: 290883
Publication: Communication › Journal article – Annual report year: 1993

Observing and modelling the planetary boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 365-418
Publication date: 1993

Host publication information
Title of host publication: Energy and water cycles in the climate system
Place of publication: Berlin
Publisher: Springer-Verlag
Editors: Raschke, E., Jacob, D.
Series: NATO Advanced Study Institute Series I: Global environmental change, 5
Main Research Area: Technical/natural sciences
Conference: Conference of the NATO special programme on global environmental change, Glücksburg (DE), 30 Sep - 11 Oct, 01/01/1991
Source: orbit
Source-ID: 291129
Publication: Research › Article in proceedings – Annual report year: 1993

On the role of humidity in estimating marine surface layer stratification and scatterometer cross section

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Geernaert, G. (Ekstern), Larsen, S. E. (Intern)
Pages: 927-932
Publication date: 1993
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Geophysical Research
Volume: 98
Issue number: C1
ISSN (Print): 0148-0227
Ratings:
BFI (2017): BFI-level 2
BFI (2015): BFI-level 2
Scopus rating (2015): SJR 2.31 SNIP 1.28
BFI (2014): BFI-level 2
Scopus rating (2014): SJR 2.374 SNIP 1.328
Aerosols in the marine surface layer: Production, transport and deposition. A contribution to the EUROTRAC subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Pages: 61-67
Publication date: 1992

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1991. Part 3. Section Air-sea exchange
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289962
Publication: Research › Book chapter – Annual report year: 1992

Air-sea exchange

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1992
Event: Abstract from CEC workshop: Exchange at the continental/ocean margins in the North Atlantic, Brussels, Belgium.
Main Research Area: Technical/natural sciences
Air-sea-exchange general report

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 1-17
Publication date: 1992

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1991. Part 3. Section Air-sea exchange
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289598
Publication: Research - peer-review › Book chapter – Annual report year: 1992

Air-to-sea deposition of gases and particles

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 182
Publication date: 1992

Host publication information
Title of host publication: Photo-oxidants: Precursors and products. Abstracts of lectures and posters
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Conference: EUROTRAC Symposium 92, Garmisch-Partenkirchen, Germany, 23/03/1992 - 23/03/1992
Source: orbit
Source-ID: 290444
Publication: Research - peer-review › Conference abstract in proceedings – Annual report year: 1992

ASE 1991

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 127-131
Publication date: 1992

Host publication information
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289736
Publication: Research - peer-review › Book chapter – Annual report year: 1992

Conveners report, EGS 17. general assembly, section 3 OA7 dynamics and bio-geochemistry of ocean-atmosphere interface
Deposition of nitrogen compounds to Danish coastal waters

Deposition of nitrogen compounds to Danish coastal waters. A contribution to subproject ASE

Deposition til hav
Dynamics of sub-micron aerosol deposition to the coastal sea surfaces: Laboratory and numerical simulations

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Edson, J. (Ekstern), Spiel, D. (Ekstern), Zoubiri, A. (Ekstern), Hummelshøj, P. (Intern), Eijk, A. V. (Ekstern)
Publication date: 1992
Event: Abstract from 17th General assembly of the European Geophysical Society, Edinburgh, United Kingdom.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289960
Publication: Research › Conference abstract for conference – Annual report year: 1992

Experimental study of flow modification inland from a coast for nonneutral conditions

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sempreviva, A. (Intern), Larsen, S. E. (Intern), Mortensen, N. G. (Intern)
Number of pages: 41
Publication date: 1992
Publication information
ISBN (Print): 87-550-1719-3
Original language: English
Series: Risø-M
Number: 2924(EN)
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Risø-M-2924, Risø-M-2924(EN)
Electronic versions:
ris_m_2924.pdf
Source: orbit
Source-ID: 290405
Publication: Research › Report – Annual report year: 1992

Fluxes at the top of the marine boundary layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1992
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289939
Publication: Research › Conference abstract for conference – Annual report year: 1992

Initial analysis of wind data from a sonic anemometer on FS alkor during the nose 1991 campaign. Progress report june 1992

General information
Host publication information
Title of host publication: Eurotrac air sea exchange experiment North Sea 14-27 september 1991. Report to the Department of the Environment
Place of publication: Norwich
Publisher: School of Environmental Sciences. University of East Anglia
Editors: Jickells, T., Spokes, L.
Main Research Area: Technical/natural sciences
Source-ID: 289593
Publication: Research › Book chapter – Annual report year: 1992

Les recherches en micro-meteorologie à Risø: Modèles, codes opérationnels et experiences de validation a petit échelle

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Publication date: 1992
Main Research Area: Technical/natural sciences
Source-ID: 289938
Publication: Research › Conference abstract for conference – Annual report year: 1992

Turbulence intensity and power spectra 70 m above the water surface of the Great Belt

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Courtney, M. (Intern), Hansen, F. (Ekstern), Højstrup, J. (Intern), Jensen, N. O. (Intern)
Number of pages: 51
Publication date: 1992

Publication information
ISBN (Print): 87-550-1680-4
Original language: English
Series: Risø-M
Number: 2898(EN)
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Risø-M-2898, Risø-M-2898(EN)
Source-ID: 290423
Publication: Research › Report – Annual report year: 1992

Aerosol dynamics, transport and deposition near the sea surface. A contribution to the EUROTRAC subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hummelshøj, P. (Intern), Rouault, M. (Ekstern), Mestayer, P. (Ekstern), Zoubin, A. (Ekstern), Edson, J. (Ekstern), Leuw, G. D. (Ekstern), Eijk, A. V. (Ekstern), Fairall, C. (Ekstern), Spiel, D. (Ekstern)
Pages: 50-55
Publication date: 1991

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1990. Part 3. Section Air-sea exchange
Afssættning af luftbårne forbindelser til land- og vandområder

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Asman, W. (Ekstern), Hovmand, M. (Ekstern)
Publication date: 1991

Host publication information
Title of host publication: Kvælstof, fosfor og organisk stof i jord- og vandmiljøet. Rapport fra konsensuskonference
Place of publication: København
Publisher: Undervisningsministeriets Forskningsafdeling
Editors: Frier, J., Christensen, J.
Main Research Area: Technical/natural sciences
Conference: Kvælstof, fosfor og organisk stof i jord- og vandmiljøet., København, 31 Jan - 4 Feb, 01/01/1991
Source: orbit
Source-ID: 289321
Publication: Research › Article in proceedings – Annual report year: 1991

Deposition, dynamics and influence of particles in the marine atmospheric boundary layer, laboratory study

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern), Edson, J. (Ekstern), Spiel, D. (Ekstern)
Number of pages: 80
Publication date: 1991

Publication information
Place of publication: The Hague
Publisher: TNO. Physics and Electronics Laboratory
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289127
Publication: Research - peer-review › Book – Annual report year: 1991

Experimental and numerical study of aerosol dynamics and deposition at the sea surface; 2PIE, GWAIHIR & CLUSA

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Zoubiri, A. (Ekstern), Edson, J. (Ekstern), Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Eijk, A. V. (Ekstern), Fairall, C. (Ekstern)
Pages: 66-74
Publication date: 1991

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1990. Part 3. Section Air-sea exchange
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288918
Publication: Research › Book chapter – Annual report year: 1991
Experimental and numerical study of aerosol dynamics and deposition at the sea surface; 2PIE, GWAIHIR & CLUSA. A contribution to the EUROTRAC subproject Air-Sea Exchange

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Zoubiri, A. (Ekstern), Edson, J. (Ekstern), Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Eijk, A. V. (Ekstern), Fairall, C. (Ekstern), Spiel, D. (Ekstern)
Pages: 66-74
Publication date: 1991

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1990. Part 3. Section Air-sea exchange
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289266
Publication: Research › Book chapter – Annual report year: 1991

Generation, transport and deposition of marine aerosols. A contribution to the EUROTRAC subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Eijk, A. V. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern), Edson, J. (Ekstern), Fairall, C. (Ekstern), Spiel, D. (Ekstern)
Pages: 56-62
Publication date: 1991

Host publication information
Title of host publication: EUROTRAC (a EUREKA environmental project) annual report 1990. Part 3. Section Air-sea exchange
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 289265
Publication: Research › Book chapter – Annual report year: 1991

Modelling dry deposition of particles to the ocean

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jensen, N. (Intern), Hummelshøj, P. (Intern), Larsen, S. E. (Intern)
Pages: 193-197
Publication date: 1991

Host publication information
Title of host publication: 19. ITM on air pollution modelling and its applications. Vol. 1
Place of publication: Athens
Publisher: University of Athens
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288945
Publication: Research › Article in proceedings – Annual report year: 1991
Sea spray and particle deposition; An air/water tunnel experiment and its relation to over-ocean conditions. A contribution to subproject ASE

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Edson, J. (Ekstern), Mestayer, P. (Ekstern), Fairall, C. (Ekstern), Leeuw, G. D. (Ekstern)
Pages: 87-91
Publication date: 1991

Host publication information
Title of host publication: Transport and transformation of pollutants in the troposphere
Place of publication: The Hague
Publisher: SPB Academic Publishing
Editors: Borrell, P., Borrell, P., Seiler, W.
ISBN (Print): 90-5103-058-4
Main Research Area: Technical/natural sciences
Conference: EUROTRAC Symposium '90, Garmisch-Partenkirchen, Germany, 02/04/1990 - 02/04/1990
Source: orbit
Source-ID: 289263
Publication: Research › Article in proceedings – Annual report year: 1991

Turbulence sensor dynamic calibration using real-time spectral computations

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Larsen, S. E. (Intern), Fairall, C. (Ekstern), Edson, J. (Ekstern)
Pages: 841-851
Publication date: 1991
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Atmospheric and Oceanic Technology
Volume: 7
ISSN (Print): 0739-0572
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.468 SNIP 1.191
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.337 SNIP 1.249
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.645 SNIP 1.408
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 2.109 SNIP 1.637
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.984 SNIP 1.441
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.759 SNIP 1.268
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.669 SNIP 1.325
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.75 SNIP 1.442
Scopus rating (2007): SJR 1.799 SNIP 1.419
Scopus rating (2006): SJR 1.566 SNIP 1.487
Scopus rating (2005): SJR 2.135 SNIP 1.549
Wind assessment for project evaluation

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 26
Publication date: 1991

Host publication information
Title of host publication: Proceedings of UNDTCD/Danida/Risø international workshop on wind energy
Editors: Lundsager, P., Harvøe, P.
ISBN (Print): 87-550-1658-8
Series: Risø-M
Number: 2879
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Conference: UNDTCD/Danida/Risø international workshop on wind energy, Risø, 21-25 Aug, 01/01/1989
Risø-M-2879
Source: orbit
Source-ID: 289366
Publication: Research › Article in proceedings – Annual report year: 1991

9. Symposium on turbulence and diffusion

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jensen, N. (Intern), Kristensen, L. (Intern), Larsen, S. E. (Intern)
Number of pages: 430
Publication date: 1990

Publication information
Place of publication: Boston, MA
Publisher: American Meteorological Society
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288635
Publication: Research - peer-review › Book – Annual report year: 1990

A real-time Puff-model for accidental releases in complex terrain

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Thykier-Nielsen, S. (Intern), Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Troen, I. (Intern), Baas, A. D. (Ekstern), Kamada, R. (Ekstern), Skupniewicz, C. (Ekstern), Schachter, G. (Ekstern)
Pages: 127-149
Publication date: 1990
Host publication information
Title of host publication: Proceedings of the 2. international workshop on real-time computing of the environmental consequences of an accidental release to the atmosphere from a nuclear installation. Decision aids to offsite emergency management. Vol. 1
Volume: EUR-12320(v.1)
Place of publication: Brussels
Publisher: Commission of the European Communities
Main Research Area: Technical/natural sciences
Conference: 2. International workshop on real-time computing of the environmental consequences of an accidental release to the atmosphere from a nuclear installation. Decision aids to offsite emergency management, Luxembourg, 16-19 May, 01/01/1989
Source: orbit
Source-ID: 288814
Publication: Research › Article in proceedings – Annual report year: 1990

CLUSE numerical models: Fate and influence of aerosol droplets near water surfaces

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Leeuw, G. D. (Ekstern), Edson, J. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern), Rouault, M. (Ekstern), Mestayer, P. (Ekstern)
Publication date: 1990

Host publication information
Title of host publication: Proceedings of workshop on infrared propagation in the maritime aerosol layer
Place of publication: Washington, DC
Publisher: Naval Research Laboratory
Editors: Trustry, G., Roney, P.
Main Research Area: Technical/natural sciences
Conference: Workshop on infrared propagation in the maritime aerosol layer, Washington, DC, 30 Apr - 2 May, 01/01/1990
Source: orbit
Source-ID: 288582
Publication: Research › Article in proceedings – Annual report year: 1990

CLUSE simulations of the vapor flux modification by droplet evaporation

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Edson, J. (Ekstern), Rouault, M. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern), Leeuw, G. D. (Ekstern), Spiel, D. (Ekstern), Cosmo, J. D. (Ekstern), Katsaros, K. (Ekstern), Monohan, E. (Ekstern), Schiestel, R. (Ekstern)
Pages: 100-105
Publication date: 1990

Host publication information
Title of host publication: Modelling the fate and influence of marine spray. Proceedings
Place of publication: Groton, CT
Publisher: Marine Sciences Institute
Editors: Mestayer, P., Monohan, E., Beetham, P.
Series: HEXOS contribution, 24; Whitecap report, 7
Main Research Area: Technical/natural sciences
Workshop: Workshop on Modelling the Fate and Influence of Marine Spray, Marseille, France, 06/06/1990 - 06/06/1990
Source: orbit
Source-ID: 288567
Publication: Research › Article in proceedings – Annual report year: 1990

Deposition velocity for submicron particles determined in the IMST tunnel as a function of the surface aerosol production rate and its relation to over ocean conditions

General information
Description of aerosol production, dynamics and deposition in the marine environment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hummelshøj, P. (Intern), Rouault, M. (Ekstern), Mestayer, P. (Ekstern), Edson, J. (Ekstern), Leeuw, G. D. (Ekstern), Eijk, L. V. (Ekstern), Fairall, C. (Ekstern), Spiel, D. (Ekstern)
Pages: 47-48
Publication date: 1990

Host publication information
Title of host publication: EUROTRAC annual report 1989. Part 3
Place of publication: Garmisch-Partenkirchen
Publisher: EUROTRAC
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288580
Publication: Research - peer-review › Book chapter – Annual report year: 1990

IGAC/MAGE: International planning of chemical air/sea exchange research

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Huebert, B. (Ekstern), Bates, T. (Ekstern), Bandy, A. (Ekstern), Larsen, S. E. (Intern), Duce, R. (Ekstern)
Pages: 1051-1057
Publication date: 1990
Main Research Area: Technical/natural sciences

Publication information
Journal: EOS
Volume: 71
Issue number: 35
Original language: English
Source: orbit
Source-ID: 288551
Publication: Research › Journal article – Annual report year: 1990

Inertial-dissipation air-sea flux measurements: A prototype system, using realtime spectral computations

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Fairall, C. (Ekstern), Edson, J. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Pages: 425-453
Inertial-dissipation flux estimations: The HEXMAX results

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Edson, J. (Ekstern), Fairall, C. (Ekstern), Mestayer, P. (Ekstern), Larsen, S. E. (Intern)
Pages: 66-69
Publication date: 1990

Host publication information
Title of host publication: 9. Symposium on turbulence and diffusion
Place of publication: Boston, MA
Publisher: American Meteorological Society
Editors: Jensen, N., Kristensen, L., Larsen, S.
Main Research Area: Technical/natural sciences
Conference: 9th Symposium on Turbulence and Diffusion, Roskilde, Denmark, 30/04/1990 - 30/04/1990
Source: orbit
Low frequency behaviour of horizontal velocity spectra in stable surface layers

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Courtney, M. (Ekstern), Mahrt, L. (Ekstern)
Pages: 401-404
Publication date: 1990

Host publication information
Title of host publication: 9. Symposium on turbulence and diffusion
Place of publication: Boston, MA
Publisher: American Meteorological Society
Editors: Jensen, N., Kristensen, L., Larsen, S.
Main Research Area: Technical/natural sciences
Conference: 9th Symposium on Turbulence and Diffusion, Roskilde, Denmark, 30/04/1990 - 30/04/1990
Source: orbit
Source-ID: 288651
Publication: Research › Article in proceedings – Annual report year: 1990

Målinger på Mars bekræfter meteorologiske teorier

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Landberg, L. (Intern), Larsen, S. E. (Intern)
Pages: 6-7
Publication date: 1990
Main Research Area: Technical/natural sciences

Publication information
Journal: Risønyt
Issue number: 4
Original language: Danish
Source: orbit
Source-ID: 287183
Publication: Research › Journal article – Annual report year: 1990

Modelling dry deposition of particles to the ocean

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Hummelshøj, P. (Intern), Jensen, N. O. (Intern), Larsen, S. E. (Intern), Hansen, C. (Ekstern)
Pages: 321-324
Publication date: 1990

Host publication information
Title of host publication: 9. Symposium on turbulence and diffusion
Place of publication: Boston, MA
Publisher: American Meteorological Society
Editors: Jensen, N., Kristensen, L., Larsen, S.
Main Research Area: Technical/natural sciences
Conference: 9th Symposium on Turbulence and Diffusion, Roskilde, Denmark, 30/04/1990 - 30/04/1990
Source: orbit
Source-ID: 288666
Publication: Research › Article in proceedings – Annual report year: 1990

Power spectra of horizontal wind components in the neutral atmospheric surface boundary layer
Response of neutral boundary-layers to changes of roughness

When air blows across a change in surface roughness, an internal boundary layer (IBL) develops within which the wind adapts to the new surface. This process is well described for short fetches, > 1 km. However, few data exist for large fetches on how the IBL grows to become a new equilibrium boundary layer where again the drag laws can be used to estimate the surface wind.

To study this problem, data have been sampled for two years from four 30-m meteorological masts placed from 0 to 30 km inland from the North Sea coast of Jutland in Denmark. The present analysis is limited to neutral stratification, and the surface roughness is the main parameter. The analysis of wind data and two simple models, a surface layer and a planetary boundary layer (PBL) model, are described.

Results from both models are discussed and compared with data analysis. Model parameters have been evaluated and the model sensitivity to those parameters has been investigated. Using the model parameters, a large-scale roughness length has been estimated.
Spray droplets under turbulent conditions

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Rouault, M. (Ekstern), Larsen, S. E. (Intern)
Number of pages: 60
Publication date: 1990

Publication information
ISBN (Print): 87-550-1608-1
Original language: English
Series: Risø-M
Number: 2847
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Risø-M-2847
Electronic versions:
Ris_M_2847.pdf
Source: orbit
Source-ID: 288602
Publication: Research - peer-review › Journal article – Annual report year: 1990

The meteorology mast at Sprogø

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Jensen, G. (Intern), Jensen, N. O. (Intern), Larsen, S. E. (Intern)
Number of pages: 54
Publication date: 1990

Publication information
A Model for Accidental Releases in Complex Terrain

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Thykier-Nielsen, S. (Intern), Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Troen, I. (Intern), Baas, A. D. (Ekstern), Kamada, R. (Ekstern), Skupniewicz, C. (Ekstern), Schacher, G. (Ekstern)
Pages: 65-76
Publication date: 1989

Host publication information
Title of host publication: Air Pollution Modeling and Its Application VII
Place of publication: New York
Publisher: Plenum Publishing Co., N.Y.
Editor: Dop, H. V.
Series: NATO Challenges of Modern Society, 13
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288240
Publication: Research › Article in proceedings – Annual report year: 1989

Beregning af luftforurenings spredning over inhomogent terræn, specielt med henblik på dimensionering af skorstene i kystområder

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Berkowicz, R. (Ekstern), Olesen, H. (Ekstern), Gryning, S. (Intern), Larsen, S. E. (Intern)
Publication date: 1989

Publication information
Place of publication: Roskilde
Publisher: Miljøstyrelsens Luftforureningslaboratorium. Meteorologi- og Windenergifaelingen, Risø
ISBN (Print): 87-550-1553-0
Original language: Danish
Series: Energiministeriets Energiforskningsprogram. Miljø og restprodukter
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288023
Publication: Research - peer-review › Book – Annual report year: 1989

Dispersion Climatology in a Coastal Zone

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Gryning, S. (Intern)
Publication date: 1989
Power Spectra of Horizontal Wind Components in the Neutral Atmospheric Surface Layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Højstrup, J. (Intern), Larsen, S. E. (Intern), Madsen, P. H. (Intern)
Pages: 132
Publication date: 1989
Main Research Area: Technical/natural sciences

Publication information
Original language: English
Source: orbit
Source-ID: 288233
Publication: Research › Journal article – Annual report year: 1989
Progress Report from the Inertial Dissipation Group

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Edson, J. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Pages: 44-57
Publication date: 1989

Host publication information
Title of host publication: Proceedings of the NATO Advanced Workshop on Humidity Exchange over the Sea Main Experiment (HEXMAX) Analysis and Interpretation
Place of publication: Seattle
Publisher: University of Washington. Department of Atmospheric Sciences
Editors: Oost, W., Smith, S., Katsaros, K.
Series: HEXOS Contribution No. 16
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288010
Publication: Research › Article in proceedings – Annual report year: 1989

Roughness Change Effects for Small and Large Fetches

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Sempreviva, A. (Intern), Larsen, S. E. (Intern), Mortensen, N. (Intern), Troen, I. (Ekstern)
Pages: 43-50
Publication date: 1989

Host publication information
Title of host publication: Meteorology and Atmospheric Dispersion in a Coastal Area. Proceedings
Place of publication: Roskilde
Publisher: Risø National Laboratory
Editor: Gryning, S.
ISBN (Print): 87-550-1486-0
Main Research Area: Technical/natural sciences
Workshop: EURASAP Conference, Risø, Denmark, 24/10/1988 - 24/10/1988
Source: orbit
Source-ID: 288043
Publication: Research › Article in proceedings – Annual report year: 1989

Roughness Change Effects for Small and Large Fetches

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Sempreviva, A. (Intern), Larsen, S. E. (Intern), Mortensen, N. (Intern), Troen, I. (Intern)
Publication date: 1989

Host publication information
Title of host publication: Beregning af luftforurenings spredning over inhomogent terræn, specielt med henblik på dimensionering af skorstene i kystområder
Place of publication: Roskilde
Publisher: Miljøstyrelsens Luftforureningslaboratorium. Meteorologi- og Vindenergialderingen, Risø
Editors: Berkowicz, R., Olesen, H., Gryning, S.
ISBN (Print): 87-550-1553-0
Series: Energiministeriets Energiforskningsprogram. Miljø og restprodukter
Main Research Area: Technical/natural sciences
Sonic Temperature Measurements during HEXMAX

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Fairall, C. (Ekstern), Edson, J. (Ekstern), Mestayer, P. (Ekstern)
Pages: 58-69
Publication date: 1989

Host publication information
Title of host publication: Proceedings of the NATO Advanced Workshop on Humidity Exchange over the Sea Main Experiment (HEXMAX) Analysis and Interpretation
Place of publication: Seattle
Publisher: University of Washington. Department of Atmospheric Sciences
Editors: Oost, W., Smith, S., Katsaros, K.
Series: HEXOS Contribution No. 16
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288009
Publication: Research › Article in proceedings – Annual report year: 1989

The HEXIST Lagrangian Simulation of the Transport of Evaporating Jet Drops

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Edson, J. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Pages: 164-177
Publication date: 1989

Host publication information
Title of host publication: Proceedings of the NATO Advanced Workshop on Humidity Exchange over the Sea Main Experiment (HEXMAX) Analysis and Interpretation
Place of publication: Seattle
Publisher: University of Washington. Department of Atmospheric Sciences
Editors: Oost, W., Smith, S., Katsaros, K.
Series: HEXOS Contribution No. 16
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288012
Publication: Research › Article in proceedings – Annual report year: 1989

Turbulent Transport and Evaporation of Droplets Generated at an Air-Water Interface

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Edson, J. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern), Spiel, D. (Ekstern)
Pages: 129-147
Publication date: 1989

Host publication information
Title of host publication: Selected Papers from the 6. International Symposium on Turbulent Shear Flows
Place of publication: Berlin
Vandenberg Air Force Base Meteorology and Plume Dispersion Handbook for Boundary Layer Releases

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Kamada, R. (Ekstern), Skupniewicz, C. (Ekstern), Glendening, J. (Ekstern), Schacher, G. (Ekstern), Mikkelsen, T. (Intern), Thykier-Nielsen, S. (Intern), Troen, I. (Ekstern), Larsen, S. E. (Intern), Takle, E. (Ekstern), Ly, L. (Ekstern), Griffin, J. (Ekstern)
Number of pages: 450
Publication date: 1989

Publication information
Original language: English
Series: NPS-61-89-004(v.1); NPS-61-89-004(v.2)
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 288209
Publication: Research - peer-review › Report – Annual report year: 1989

A Comparison of Inertial-Dissipation and Eddy Covariance Surface Flux Measurements during the Hexmax Experiment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Fairall (Ekstern), C.W. (Ekstern), Edson, J. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Publication date: 1988

Host publication information
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: Unknown, Anaheim, 31 Jan - 5 Feb, 01/01/1988
Source: orbit
Source-ID: 287698
Publication: Research › Article in proceedings – Annual report year: 1988

A Hazard Assessment Model for Complex Terrain

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Thykier-Nielsen, S. (Intern), Troen, I. (Ekstern), Baas, A. D. (Ekstern), Larsen, S. E. (Intern), Kamada, R. (Ekstern), Skupniewicz, C. (Ekstern), Schacher, G. (Ekstern)
Pages: 180-185
Publication date: 1988

Host publication information
Title of host publication: 8. Symposium on Turbulence and Diffusion
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: Unknown, San Diego, 25-29 Apr, 01/01/1988
A Random Walk Simulation of the Turbulent Transport of Evaporating Jet Drops in the Air-Sea Simulation Tunnel during Hexist

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Edson, J. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern), Mestayer, P. (Ekstern)
Publication date: 1988

Host publication information
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: Unknown, Anaheim, 31 Jan - 5 Feb, 01/01/1988
Source: orbit
Source-ID: 287707
Publication: Research › Article in proceedings – Annual report year: 1988

Consequences of a Nuclear Accidental Release Modelled by a Puff-Model out to 200 km from the Source

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Thykier-Nielsen, S. (Intern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Pages: 170-192
Publication date: 1988

Host publication information
Title of host publication: Real-Time Computing of the Environmental Consequences of an Accidental Release to Atmosphere from a Nuclear Installation. Proceedings. Vol. 1
Place of publication: Luxembourg
Publisher: Commission of the European Communities
Series: DOC. No. V 2943/86
Main Research Area: Technical/natural sciences
Conference: Unknown, Luxembourg, 17-20 Sep, 01/01/1985
Source: orbit
Source-ID: 287584
Publication: Research › Article in proceedings – Annual report year: 1988

Impact of climate variability on wind and solar energy production, on heating consumption and on atmospheric dispersion of pollutants

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Kristensen, L. (Intern), Frydendahl, K. (Ekstern)
Number of pages: 79
Publication date: 1988

Publication information
Publisher: Risø National Laboratory
ISBN (Print): 87-550-1407-0
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 558
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Response of neutral boundary layers to changes of roughness

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Mortensen, N. G. (Intern), Sempreviva, A. M. (Intern), Troen, I. (Intern)
Pages: 15-43
Publication date: 1988

Host publication information
Title of host publication: Meteorology and Wind Energy Department. Annual Progress Report. 1 January - 31 December 1987
Publisher: Risø National Laboratory
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 560
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-560, Risø-R-560
Electronic versions:
Response_of_neutral_boundary_layers_to_changes_of_roughness.pdf
Publication: Research › Report chapter – Annual report year: 1988

Roughness Change Effects for Small and Large Fetches

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Sempreviva, A. (Intern), Larsen, S. E. (Intern), Mortensen, N. G. (Intern), Troen, I. (Intern)
Number of pages: 49
Publication date: 1988

Publication information
Publisher: Risø National Laboratory
ISBN (Print): 87-550-1467-4
Original language: English
Series: Risø-M
Number: 2749
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Risø-M-2749
Electronic versions:
ris_m_2749.pdf
Source: orbit
Source-ID: 287631
Publication: Research › Report – Annual report year: 1988

Meteorology Results from the Tower Ocean Wave and Radar Dependence Experiment

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Geernaert, G. (Ekstern), Byars, B. (Ekstern), Davidson, K. (Ekstern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Number of pages: 117
Publication date: 1987
Diffusion Estimates Handbook: Application to the Space Shuttle HC1 Exhaust Cloud

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Schacher, G. E. (Ekstern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Number of pages: 44
Publication date: 1986

Dispersion climatology in a coastal zone
A crosswind integrated K-model with wind- and K-profiles described by Monin-Obukhov similarity expressions is solved for a continuous surface release to yield the vertical spread of the plume as a function of the surface roughness $z_0$ and the Monin-Obukhov length $L$ for a given downwind distance. The vertical spread of the plume is translated into $\sigma_z$, and lines were traced in a $(z_0, L^{-1})$ plane for which the $\sigma_z$ of the K-model matched the corresponding $\sigma_z$ of Pasquill's system. By this technique a new classification scheme is constructed. Knowing $z_0$ and $L$, the scheme tells which $\sigma_z$ curve in the Pasquill system should be used to describe the dispersion. This dispersion classification scheme is used to organize 3 years of data from two meteorological masts, one placed directly at a shoreline and the other roughly 1 km inland. Differences in the dispersion climatology over land and water are studied by averaging the data selectively. The large differences for water and land surfaces between the seasonal and diurnal variation of the dispersion class distributions are illustrated. It is found that the water surface influences the dispersion climatology as far as 20 km inland.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Larsen, S. E. (Intern), Gryning, S. (Intern)
Pages: 1325-1332
Publication date: 1986
Main Research Area: Technical/natural sciences

Publication information
Journal: Atmospheric Environment
Volume: 20
Issue number: 7
ISSN (Print): 1352-2310
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.999 SNIP 1.267
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.641 SNIP 1.664
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.774 SNIP 1.633
ISI indexed (2013): ISI indexed yes
Hot-wire Measurements of Atmospheric Turbulence near the Ground

General information
State: Published
Organisations: Wind Energy Educational Programme, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Number of pages: 342
Publication date: 1986

Publication information
Place of publication: Roskilde
Publisher: Risø National Laboratory
Original language: English

Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 233
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Riso-R-233, Risoe-233, Risoe report 233
Electronic versions:
ris_r_233.pdf
Source: orbit
Source-ID: 280565
Publication: Research › Report – Annual report year: 1986

Inertial-dissipation methods and turbulent fluxes at the air-ocean interface
The use of high frequency atmospheric turbulence properties (inertial subrange spectra, structure function parameters or dissipation rates) to infer surface fluxes of momentum, sensible heat and latent heat is more practical for most ocean going platforms than direct covariance measurement. The relationships required to deduce the fluxes from such data are examined in detail in this paper and several ambiguities and uncertainties are identified. It is noted that, over water, data on water vapor properties (the dimensionless functions for the mean profile, the structure function parameter and the
variance transport term) are extremely sparse and the influence of sea spray is largely unknown. Special attention is given
to flux estimation on the basis of the structure function formalism. Existing knowledge about the relevant similarity
functions is summarized and discussed in light of the ambiguities identified above.

Mixed and dynamic response of hot wires and cold wires and measurements of turbulence statistics
Hot wires respond to temperature as well as to velocity, whereas cold wires respond to velocity as well as to temperature.
The static and dynamic response characteristics are summarized and it is shown that the frequency transfer functions for
the four different responses in general are different. The influence of the transfer characteristics on measurements of
turbulence statistics is discussed; it is shown that the nonideal response behavior influences, most strongly, statistics involving the correlation between velocity and temperature and, most seriously, parameters involving small-scale turbulence.

General information
State: Published
Organisations: Wind Energy Educational Programme, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Højstrup, J. (Intern), Fairall, C. W. (Ekstern)
Pages: 236-247
Publication date: 1986
Main Research Area: Technical/natural sciences

Publication information
Journal: Journal of Atmospheric and Oceanic Technology
Volume: 3
Issue number: 2
ISSN (Print): 0739-0572
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.468 SNIP 1.191
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.337 SNIP 1.249
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.645 SNIP 1.408
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 2.109 SNIP 1.637
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.984 SNIP 1.441
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.759 SNIP 1.268
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.669 SNIP 1.325
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.75 SNIP 1.442
Scopus rating (2007): SJR 1.799 SNIP 1.419
Scopus rating (2006): SJR 1.566 SNIP 1.487
Scopus rating (2005): SJR 2.135 SNIP 1.549
Scopus rating (2004): SJR 2.217 SNIP 1.732
Scopus rating (2003): SJR 1.759 SNIP 1.512
Scopus rating (2002): SJR 1.592 SNIP 1.387
Scopus rating (2001): SJR 1.578 SNIP 1.293
Scopus rating (2000): SJR 1.569 SNIP 1.162
Scopus rating (1999): SJR 1.521 SNIP 1.137
Original language: English
Source: orbit
Source-ID: 280561
Publication: Research - peer-review › Journal article – Annual report year: 1986

Sommerhøjtryk over Sydskandinavien

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Danmarks Meteorologisk Institut
Authors: Nielsen, N. W. (Ekstern), Larsen, S. E. (Intern)
Impact of Climatic Variability on Wind and Solar Energy Production on Heating Consumption, and on Atmospheric Dispersion of Pollutants

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Fantechi, R. (ed.) (Ekstern)
Publication date: 1985

Publication information
Place of publication: Luxembourg
Publisher: Commission of the European Communities
Original language: English
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 286675
Publication: Research - peer-review › Book – Annual report year: 1985

Large-Scale Spectral Structure with a Gap in the Stably Stratified Atmosphere
The analysis of the large-scale structure of turbulence in a stratified atmosphere is important for the prediction and modelling of turbulence. The Monin-Obukhov similarity consideration is well suited for the modelling of small-scale turbulence. But the large-scale turbulence possesses new features and parameters, as connected with the appearance of a spectral gap in the stably stratified atmosphere, for the understanding of which an analytical investigation is needed. By a group-kinetic method, we derive the anisotropic form of the transfer function and its governing eddy viscosity. On this basis, we obtain the spectral laws k-5/3, k-1, k-3 for the subrange of inertia, shear, and buoyancy, respectively. A gap connects the last two subranges by the variable anisotropy, as a result of the fall of the spectrum of the vertical velocity fluctuations. The variable anisotropy causes the deviations from the spectral laws k-1 and k-3. Our experiment supports our analytical prediction.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Chen, T. M. (Ekstern), Larsen, S. E. (Intern), Pécseli, H. (Intern), Mikkelsen, T. (Intern)
Pages: 616-620
Publication date: 1985
Main Research Area: Technical/natural sciences

Publication information
Journal: Physica Scripta
Volume: 31
Issue number: 6
ISSN (Print): 0031-8949
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
BFI (2014): BFI-level 1
BFI (2013): BFI-level 1
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
ISI indexed (2012): ISI indexed yes
Non-Linear Diffusion of Charged Particles in a Turbulent Magnetoplasma.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Misguich, J. H. (Ekstern), Balescu, R. (Ekstern), Pécseli, H. (Intern), Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Xiaoming, Q. (Ekstern)
Number of pages: 196
Publication date: 1985

Oscillating Nocturnal Slope Flow in a Coastal Valley
Observations of slope flows in a coastal valley are analyzed. The diurnal variation of upslope and downslope flows depends on season in a systematic way which appears to be related to the high latitude of the observational site and the presence of a nearby layer of marine air. Summer nocturnal flow over the sloping valley floor was studied during a special observing campaign. A downslope gravity flow interacts with even colder surface air at the valley floor. The latter originates as cold marine air or previous drainage of cold air. Regular oscillations which appear to be trapped, terrain-related internal gravity waves, exert a major influence on the downslope flow and its interaction with pre-existing cold air at the floor of the valley

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Gryning, S. (Intern), Larsen, S. E. (Intern), Mahrt, L. (Intern)
Pages: 196-203
Publication date: 1985
Main Research Area: Technical/natural sciences
Parameterization of the Low Frequency Part of Spectra of Horizontal Velocity Component in the Stable Surface Boundary Layer

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Højstrup, J. (Intern), Olsen, H. R. (Ekstern)
Pages: 181-204
Publication date: 1985

Host publication information
Title of host publication: Proceedings of the Models of Turbulence and Diffusion in Stably Stratified Regions of the Natural Environment
Place of publication: Oxford
Publisher: Clarendon Press
Main Research Area: Technical/natural sciences
Conference: Models of Turbulence and Diffusion in Stably Stratified Regions of the Natural Environment, Cambridge, March 1983, 01/01/1985
Source: orbit
Source-ID: 286699
Publication: Research › Article in proceedings – Annual report year: 1985

Report on HEXIST 0 Pilot Experiment and the Informal HEXIST Meeting Number 2: HEXIST Report No. 2

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mestayer, P. (Ekstern), Lefauconnier, C. (Ekstern), Fairall, C. (Ekstern), Larsen, S. E. (Intern)
Number of pages: 8
Publication date: 1985

Publication information
A Field Investigation of the Dispersion in a Valley in Greenland

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Gryning, S. (Intern), Lyck, E. (Ekstern), Mahrt, L. (Intern), Larsen, S. E. (Intern)
Publication date: 1984

Host publication information
Title of host publication: 4. Joint Conference on Applications of Air Pollution Meteorology, Portland, 16-19 October 1984
Place of publication: Boston
Publisher: American Meteorological Society
Editors: Beals, G., Browne, N.
Main Research Area: Technical/natural sciences
Conference: 4. Joint Conference on Applications of Air Pollution Meteorology, Portland, 16-19 October, 01/01/1984
Source: orbit
Source-ID: 280706
Publication: Article in proceedings – Annual report year: 1984

Analyse af vindobservationer fra Fanø i perioden 1872-1980

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Technical University of Denmark
Authors: Larsen, S. E. (Intern), Peterson, E. (Ekstern)
Pages: 12-17
Publication date: 1984
Main Research Area: Technical/natural sciences

Publication information
Journal: Vejret
Volume: 6
Issue number: 1
ISSN (Print): 0106-5025
Original language: English
Source: orbit
Source-ID: 279839
Publication: Journal article – Annual report year: 1984

Climate Variation in Northern Europe during the Past Century. Evidence from a Danish Record

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Technical University of Denmark
Authors: Peterson, E. (Ekstern), Larsen, S. E. (Intern)
Pages: 371-379
Publication date: 1984

Host publication information
Title of host publication: Climate Changes on a Yearly to Millennial Basis
Place of publication: Amsterdam, The Netherlands
Publisher: D. Reidel Publishing Group
Editors: Mörner, A., Karlen, W.
Main Research Area: Technical/natural sciences
Source: orbit
Dry Deposition, Surface Production and Dynamics of Aerosols in the Marine Boundary Layer

A model of downward aerosol particle flux characterized by dry deposition velocity, Vd, due to Slinn and Slinn (1980) is generalized to the case of nonzero surface concentration (absorbing surface with a surface source). A more general expression for the flux at some reference height is developed which includes Vd and an effective surface source strength, Si, which is a function of the true surface source strength, Si, and the particle transport properties below the reference height. The general expression for the surface flux is incorporated into a dynamic mixed layer model of the type developed by Davidson et al. (1983). This three layer model (diffusion sublayer, turbulent surface layer and mixed layer) is applied to an open ocean marine regime where boundary layer advection is ignored. The aerosol concentration in the boundary layer is considered to consist of sea salt particles produced as droplets at the surface and ‘continental’ background aerosols brought into the boundary layer at the top by entrainment and gravitational settling. Estimates of Si are provided.
Modelling Velocity Spectra in the Lower Part of the Planetary Boundary Layer

Principles used when constructing models for velocity spectra are reviewed. Based upon data from the Kansas and Minnesota experiments, simple spectral models are set up for all velocity components in stable air at low heights, and for the vertical spectrum in unstable air through a larger part of the planetary boundary layer. Knowledge of the variation with stability of the (reduced) frequency \( f \), for the spectral maximum is utilized in this modelling. Stable spectra may be normalized so that they adhere to one curve only, irrespective of stability, and unstable \( w \)-spectra may also be normalized to fit one curve. The problem of using filtered velocity variances when modelling spectra is discussed. A simplified procedure to provide a first estimate of the filter effect is given. In stable, horizontal velocity spectra, there is often a ‘gap’ at low frequencies. Using dimensional considerations and the spectral model previously derived, an expression for the gap frequency is found.
Dispersion Conditions over Land and Water in a Coastal Zone Revealed by Measurements at two Meteorological Masts

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Gryning, S. (Intern)
Number of pages: 14
Publication date: 1983

Original language: English
DOIs:
10.1007/BF00119794
Source: orbit
Source-ID: 280739
Publication: Research - peer-review › Journal article – Annual report year: 1984
Dispersion from a Continuous Ground-Level Source Investigated by a K-Model

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Gryning, S. (Intern), Ulden, A. P. V. (Ekstern), Larsen, S. E. (Intern)
Pages: 355-364
Publication date: 1983
Main Research Area: Technical/natural sciences

Publication information
Journal: Royal Meteorological Society. Quarterly Journal
Volume: 109
ISSN (Print): 0035-9009
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 2.546 SNIP 1.364
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 5.183 SNIP 2.309
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 4.396 SNIP 2.057
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 3.635 SNIP 1.581
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 2.801 SNIP 1.327
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 2.503 SNIP 1.212
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 2.741 SNIP 1.457
BFI (2008): BFI-level 2
Scopus rating (2008): SJR 3.572 SNIP 1.796
Scopus rating (2007): SJR 3.238 SNIP 1.598
Scopus rating (2006): SJR 2.64 SNIP 1.301
Scopus rating (2005): SJR 2.862 SNIP 1.263
Scopus rating (2004): SJR 2.764 SNIP 1.335
Scopus rating (2003): SJR 3.054 SNIP 1.42
Scopus rating (2002): SJR 2.954 SNIP 1.399
Scopus rating (2001): SJR 3.392 SNIP 1.316
Scopus rating (2000): SJR 3.36 SNIP 1.474
Scopus rating (1999): SJR 3.65 SNIP 1.436
Original language: English
Source: orbit
Source-ID: 280977
Publication: Research - peer-review › Journal article – Annual report year: 1983
Drift wave turbulence in low-\(\beta\) plasmas
Experimental investigations of strong turbulence associated with the radial density gradient of a rotating magnetized plasma column are reported. The experiment is designed to make Taylor's hypothesis effective, in order to allow a simple interpretation of measured frequency spectra in terms of wavenumber spectra. The spectral index of the turbulent potential fluctuations is determined and the variation of the spectral intensity is investigated for varying magnetic fields. The results compare favourably with theoretical predictions. The importance of distinguishing subranges in the turbulent spectrum is demonstrated. Some aspects of the relative diffusion of a test-cloud of charged particles released in the turbulent field are discussed.

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Pécseli, H. (Intern)
Pages: 1173-1197
Publication date: 1983
Main Research Area: Technical/natural sciences

Publication information
Journal: Plasma Physics and Controlled Fusion
Volume: 25
Issue number: 11
ISSN (Print): 0741-3335
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.681 SNIP 0.771
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.191 SNIP 1.074
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.867 SNIP 0.947
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.232 SNIP 0.965
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.574 SNIP 1.598
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.533 SNIP 1.427
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.655 SNIP 1.329
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.827 SNIP 1.51
Scopus rating (2007): SJR 1.965 SNIP 1.349
Scopus rating (2006): SJR 1.854 SNIP 1.409
Scopus rating (2005): SJR 1.776 SNIP 1.527
Scopus rating (2004): SJR 2.22 SNIP 1.382
Scopus rating (2003): SJR 2.023 SNIP 1.249
Scopus rating (2002): SJR 1.511 SNIP 1.021
Scopus rating (2001): SJR 1.538 SNIP 1.231
Scopus rating (2000): SJR 1.405 SNIP 1.119
Scopus rating (1999): SJR 2.269 SNIP 1.511
Original language: English
DOIs:
10.1088/0032-1028/25/11/001
Source: orbit
Source-ID: 279978
Evaluation of a K-Model Formulated in Terms of Monin-Obukhov Similarity with the Result from the Prairie Grass Experiments

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Gryning, S. (Intern), Larsen, S. E. (Intern)
Pages: 659-666
Publication date: 1983

Host publication information
Title of host publication: Proceedings of 13. International Technical Meeting on Air Pollution Modeling and Its Applications
Place of publication: New York
Publisher: Plenum Publishing Co., N.Y.
Editor: De Wispelaere, C.
Series: NATO Challenges of Modern Society Vol. 5
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 313569
Publication: Research › Article in proceedings – Annual report year: 1983

Klimatiske ændringer over det sidste hundrede år ved Fans

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Peterson, E. W. (Ekstern)
Pages: 18-20
Publication date: 1983
Main Research Area: Technical/natural sciences

Publication information
Journal: Vejret
Volume: 5
Issue number: 3
ISSN (Print): 0106-5025
Original language: English
Source: orbit
Source-ID: 281160
Publication: Communication › Journal article – Annual report year: 1983

PPI-Theory for Particle Dispersion

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Troen, I. (Ekstern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Pages: 179-191
Publication date: 1983

Host publication information
Title of host publication: Proceedings of 13. International Technical Meeting on Air Pollution Modeling and Its Applications
Place of publication: New York
Publisher: Plenum Publishing Co., N.Y.
Editor: De Wispelaere, C.
Series: NATO Challenges of Modern Society Vol. 5
Main Research Area: Technical/natural sciences
Sammenligning af spredningsmeteorologisk statistik fra forskellige steder i Danmark

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Gryning, S. (Intern), Jensen, N. O. (Intern)
Pages: 295-308
Publication date: 1983

Host publication information
Title of host publication: 13. Nordiske Meteorolog-møde
Place of publication: København
Publisher: Meteorologisk Institut
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 281095
Publication: Research › Article in proceedings – Annual report year: 1983

Summary and Interpretation of some Danish Climate Statistics

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Jensen, N. O. (Intern), Larsen, S. E. (Intern)
Number of pages: 76
Publication date: 1983

Publication information
Publisher: Danmarks Tekniske Universitet, Risø Nationallaboratoriet for Bæredygtig Energi
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 399
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
Risø-R-399
Electronic versions:
ris_r_399.pdf
Source: orbit
Source-ID: 281100
Publication: Research › Report – Annual report year: 1983

Wind Speed and Direction Changes due to Terrain Effects Revealed by Climatological Data from two Sites in Jutland

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Hedegaard, K. (Ekstern), Larsen, S. E. (Intern)
Number of pages: 120
Publication date: 1983

Publication information
Publisher: Danmarks Tekniske Universitet, Risø Nationallaboratoriet for Bæredygtig Energi
Original language: English
Series: Denmark. Forskningscenter Risoe. Risoe-R
Number: 434
ISSN: 0106-2840
Main Research Area: Technical/natural sciences
A statistical theory on the turbulent diffusion of Gaussian puffs

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Pécseli, H. (Intern)
Number of pages: 100
Publication date: 1982

Publication information
Original language: English
Series: Risø-M
Number: 2327
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Electronic versions:
ris_m_2327.pdf
Publication date: 1982

Comment on A Revaluation of the Kansas Mast Influence on Measurements of Stress and Cup Anemometer Overspeeding

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Wyngaard, J. C. (Ekstern), Businger, J. A. (Ekstern), Kaimal, J. C. (Ekstern), Larsen, S. E. (Intern)
Pages: 245-250
Publication date: 1982
Main Research Area: Technical/natural sciences

Publication information
Journal: Boundary-Layer Meteorology
Volume: 22
Issue number: 2
ISSN (Print): 0006-8314
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 1.726 SNIP 1.187
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.805 SNIP 1.756
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 1.765 SNIP 1.634
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.959 SNIP 1.626
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.409 SNIP 1.365
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Evaluation of a K-Model Formulated in Terms of Monin-Obukhov Similarity with the Results from the Prairie Grass Experiments

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Gryning, S. (Intern), Larsen, S. E. (Intern)
Publication date: 1982

Host publication information
Title of host publication: Proceedings of 13. International Technical Meeting on Air Pollution Modeling and its Applications : Preprints
Volume: Paper No. 47
Place of publication: Brussels
Publisher: Prime Ministers Office, Science Policy
Main Research Area: Technical/natural sciences

Bibliographical note
8 pp
Source: orbit
Source-ID: 313046
Publication: Research › Article in proceedings – Annual report year: 1982

On the Finite Line Source Problem in Diffusion Theory
A simple formula for calculating dispersion from a continuous finite line source, placed at right angles to the mean wind direction, is derived on the basis of statistical theory. Comparison is made with the virtual source concept usually used and this is shown to be correct only in the limit where the virtual time lag $T_v$ is small compared to the timescale of the turbulence $t_1$.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Troen, I. (Intern), Larsen, S. E. (Intern)
Pages: 2591-2594
Publication date: 1982
Main Research Area: Technical/natural sciences

Publication information
PPI-Theory for Particle Dispersion

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Troen, I. (Intern), Larsen, S. E. (Intern), Mikkelsen, T. (Intern)
Publication date: 1982

Host publication information
Title of host publication: Proceedings of 13. International Technical Meeting on Air Pollution Modeling and its Applications
Place of publication: Brussels
Publisher: Prime Ministers Office, Science Policy
Main Research Area: Technical/natural sciences
Results from an Experimental Investigation of a Step Change in Surface Heat Flux

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Højstrup, J. (Intern), Larsen, S. E. (Intern), Jensen, N. O. (Intern)
Pages: 28-30
Publication date: 1982

Host publication information
Title of host publication: Proceedings of 1. International Conference on Meteorology and Air/Sea Interaction of the Coastal Zone
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: 1st International Conference on Meteorology and Air/Sea Interaction of the Coastal Zone, The Hague, Netherlands, 10/05/1982 - 10/05/1982

Small Scale Drainage Front

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mahrt, L. (Intern), Larsen, S. E. (Intern)
Pages: 579-587
Publication date: 1982
Main Research Area: Technical/natural sciences

Publication information
Journal: Tellus
Volume: 34
Issue number: 6
ISSN (Print): 0040-2826
Original language: English
Source: orbit
Source-ID: 313077
Publication: Research - peer-review › Journal article – Annual report year: 1982

Small Scale Drainage Surge

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Mahrt, L. (Intern), Gryning, S. (Intern)
Number of pages: 404
Pages: 36-39
Publication date: 1982

Host publication information
Title of host publication: Proceedings of 1. International Conference on Meteorology and Air/Sea Interaction of the Coastal Zone
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: 1st International Conference on Meteorology and Air/Sea Interaction of the Coastal Zone, The Hague, Netherlands, 10/05/1982 - 10/05/1982
Spatial and Temporal Resolution of a Thin-Wire Resistance Thermometer

Based on a discussion of the heat balance equation for a resistance wire sensor a frequency-wavenumber transfer function is derived, which includes the thermal inertia of the wire, the conduction losses to the prongs, and the spatial averaging of the sensor. Based on this transfer function and a model for the frequency-wavenumber temperature spectrum, typical sensor distortions of a measured turbulent temperature spectrum are calculated. The consequences for estimates of the temperature dissipation are studied, and it is finally concluded that many of the complications introduced by the more complex models of both sensor transfer and temperature spectrum tend to cancel for many sensor-flow combinations, leaving much of the simple data interpretation fairly correct. However, in some cases the more complicated models are needed to avoid serious misinterpretations of the data.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Højstrup, J. (Intern)
Pages: 471-477
Publication date: 1982
Main Research Area: Technical/natural sciences

Publication information
Journal: JOURNAL OF PHYSICS E-SCIENTIFIC INSTRUMENTS
Volume: 15
Issue number: 4
ISSN (Print): 0022-3735
Original language: English
DOIs: 10.1088/0022-3735/15/4/018
Source: orbit
Source-ID: 313067
Publication: Research - peer-review › Journal article – Annual report year: 1982

The Change of Terrain Roughness Problem Extended to Mesoscale Fetches

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Hedegaard, K. (Ekstern), Troen, I. (Intern)
Number of pages: 404
Pages: 8-13
Publication date: 1982

Host publication information
Title of host publication: Proceeding of 1. International Conference on Meteorology and Air/Sea Interaction of the Coastal Zone
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: 1st International Conference on Meteorology and Air/Sea Interaction of the Coastal Zone, The Hague, Netherlands, 10/05/1982 - 10/05/1982
Source: orbit
Source-ID: 313069
Publication: Research › Article in proceedings – Annual report year: 1982

The Importance of Deposition for Individual and Collective Doses in Connection with Routine Releases from Nuclear Power Plants

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Thykier-Nielsen, S. (Intern), Larsen, S. E. (Intern)
Number of pages: 56
A Three-Dimensional Propeller Anemometer Design for Climatological Measurements

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Christensen, O. (Ekstern)
Pages: 75-77
Publication date: 1981

Host publication information
Place of publication: Dartmouth, Nova Scotia
Publisher: Bedford Institute of Oceanography
Editors: Smith, S., Katsaros, K.
Main Research Area: Technical/natural sciences

Bibliographical note
BI-R-81-17
Source: orbit
Source-ID: 280767
Publication: Research - peer-review › Article in proceedings – Annual report year: 1981

On the finite line source problem in diffusion theory

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Troen, I. (Ekstern), Larsen, S. E. (Intern)
Number of pages: 17
Publication date: 1981

Publication information
Original language: English
Series: Risø-M
Number: 2309
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Risø-M-2309
Electronic versions:
ris_m_2309.pdf
Source: orbit
Source-ID: 311028
Publication: Research › Report – Annual report year: 1981
Study of Flow Deformation around Wind-Vane Mounted Three-Dimensional Hot-Wire Probes

Open wind tunnel tests on several different sensor systems consisting of triaxial hot-wire probes mounted on wind vanes (DISA and Riso vanes) have shown that flow deformation around the hot-wire sensor introduces errors in the measured velocity components. Though changes in the horizontal components proved to be negligible, flow deformation resulted in an overestimation of the vertical component from 1.1 to 1.5, depending on the direction of the vertical component. Turbulence and mean value data were adjusted by use of a linear correction derived from the wind tunnel tests. Wind vane construction must strike a compromise between minor flow disturbance and sufficient probe support. The final version of the DISA vane resulted in an acceptable vertical correction of about 10%.
Summary of Ongoing Research on Air-Sea Interaction at Risø

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Rømer Rasmussen, K. (Ekstern), Larsen, S. E. (Intern), Jørgensen, F. E. (Ekstern)
Pages: 27-34
Publication date: 1981
Main Research Area: Technical/natural sciences

Publication information
Journal: DISA Information
Volume: 26
ISSN (Print): 0070-6639
Original language: English
Source: orbit
Source-ID: 281631
Publication: Research › Journal article – Annual report year: 1981

Comments on Generalization of K-Theory for Turbulent Diffusion Part

Applied meteorological research related to physical meteorology, weather modification, satellite meteorology, radar meteorology, boundary layer processes, air pollution meteorology (including dispersion and chemical processes), agricultural and forest meteorology, and applied meteorological numerical models. Also, applied climatology research related to the use of climate information in decision making, impact assessments, seasonal climate forecast applications and verification, climate risk and vulnerability, development of climate monitoring tools, urban and local climates, and climate as it relates to the environment and society.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Troen, I. (Ekstern), Mikkelsen, T. (Intern), Larsen, S. E. (Intern)
Pages: 117-118
Publication date: 1980
Main Research Area: Technical/natural sciences

Publication information
Volume: 19
Issue number: 1
ISSN (Print): 0894-8763
Ratings:
BFI (2008): BFI-level 1
Cups, Vanes, Propellers and Laser Anemometers

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Busch, N. E. (Ekstern), Christensen, O. (Ekstern), Kristensen, L. (Intern), Lading, L. (Intern), Larsen, S. E. (Intern)
Pages: 11-46
Publication date: 1980

Host publication information
Title of host publication: Air-Sea Interaction. Instruments and Methods
Place of publication: New York
Publisher: Plenum Publishing Co., N.Y.
Editors: Dobson, F., Hasse, L., Davis, R.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 282879
Publication: Research › Book chapter – Annual report year: 1980

Fast-Response Temperature Sensors

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Højstrup, J. (Intern), Gibson, C. H. (Ekstern)
Pages: 269-292
Publication date: 1980

Host publication information
Title of host publication: Air-Sea Interaction. Instruments and Methods
Place of publication: New York
Publisher: Plenum Publishing Co., N.Y.
Editors: Dobson, F., Hasse, L., Davis, R.
Main Research Area: Technical/natural sciences
Source: orbit
Source-ID: 283195
Publication: Research › Book chapter – Annual report year: 1980

Meteorologisk eksperiment i Holland

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Højstrup, J. (Intern), Jensen, N. O. (Intern)
Pages: 26-29
Publication date: 1980
Main Research Area: Technical/natural sciences

Publication information
Journal: Vejret
Volume: 1
ISSN (Print): 0106-5025
Original language: Danish
Source: orbit
Source-ID: 283192
Publication: Communication › Journal article – Annual report year: 1980
Note on Spectral Diffusivity Theory

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Troen, I. (Ekstern), Mikkelsen, T. (Intern), Larsen, S. E. (Intern)
Pages: 609-615
Publication date: 1980
Main Research Area: Technical/natural sciences

Publication information
Volume: 19
Issue number: 5
ISSN (Print): 0894-8763
Ratings:
BFI (2008): BFI-level 1
Original language: English
DOIs:
10.1175/1520-0450(1980)019<0609:NOSDT>2.0.CO;2
Source: orbit
Source-ID: 283250
Publication: Research - peer-review › Journal article – Annual report year: 1980

On the Humidity Sensitivity of Hot-Wire Measurements
The influence of humidity changes on hot-wire measurements is discussed. Indications are that the humidity sensitivity parameters obtained by the authors in an earlier paper should be changed. This means, however, that the agreement between predicted and measured sensitivities ceases to exist, and it is concluded that new measurements are needed to settle the question.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Busch, N. E. (Ekstern)
Pages: 4-5
Publication date: 1980
Main Research Area: Technical/natural sciences

Publication information
Journal: DISA Information
Volume: 25
ISSN (Print): 0070-6639
Original language: English
Source: orbit
Source-ID: 283191
Publication: Research › Journal article – Annual report year: 1980

Some puff modelling principles relevant for dispersion calculations in the atmosphere

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Troen, I. (Intern)
Number of pages: 28
Publication date: 1980

Publication information
Original language: English
Series: Risø-M
Number: 2258
ISSN: 0418-6435
Main Research Area: Technical/natural sciences
Strong Turbulence in Low-beta Plasmas

An investigation of the spectral structure of turbulence in a plasma confined by a strong homogeneous magnetic field was made by means of a fluid description. The turbulent spectrum is divided into subranges. Mean gradients of velocity and density excite turbulent motions, and govern the production subrange. The spectra of velocity and potential fluctuations interact in the coupling subrange, and the energy is transferred along the spectrum in the inertia subrange. Applying the method of cascade decomposition, the spectral laws $k^{-3}$, $k^{-3}$, $k^{-2}$ are obtained for the velocity fluctuations, and $k^{-3}$, $k^{-5}$, $k^{-3/2}$ for the potential fluctuations in the production, coupling and inertia subranges, respectively. The coefficient of Bohm diffusion is reproduced, and its role in electrostatic coupling is derived. Comparison is made with measured power laws reported in the literature, from Q-devices, hot-cathode reflex arc, Stellarator, Zeta discharge, ionospheric plasmas, and auroral plasma turbulence.

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Tchen, C. M. (Ekstern), Pécseli, H. (Intern), Larsen, S. E. (Intern)
Pages: 817-829
Publication date: 1980
Main Research Area: Technical/natural sciences

Publication information
Journal: Plasma Physics and Controlled Fusion
Volume: 22
Issue number: 8
ISSN (Print): 0741-3335
Ratings:
BFI (2017): BFI-level 1
BFI (2015): BFI-level 1
Scopus rating (2015): SJR 0.681 SNIP 0.771
BFI (2014): BFI-level 1
Scopus rating (2014): SJR 1.191 SNIP 1.074
BFI (2013): BFI-level 1
Scopus rating (2013): SJR 0.867 SNIP 0.947
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): SJR 1.232 SNIP 0.965
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): SJR 1.574 SNIP 1.598
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 1.533 SNIP 1.427
BFI (2009): BFI-level 1
Scopus rating (2009): SJR 1.655 SNIP 1.329
BFI (2008): BFI-level 1
Scopus rating (2008): SJR 1.827 SNIP 1.51
Scopus rating (2007): SJR 1.965 SNIP 1.349
Scopus rating (2006): SJR 1.854 SNIP 1.409
Scopus rating (2005): SJR 1.776 SNIP 1.527
Scopus rating (2004): SJR 2.22 SNIP 1.382
Scopus rating (2003): SJR 2.023 SNIP 1.249
Scopus rating (2002): SJR 1.511 SNIP 1.021
Scopus rating (2001): SJR 1.538 SNIP 1.231
Scopus rating (2000): SJR 1.405 SNIP 1.119
Scopus rating (1999): SJR 2.269 SNIP 1.511
Original language: English
DOIs: 10.1088/0032-1028/22/8/005
Source: orbit
Source-ID: 281277
Publication: Research - peer-review › Journal article – Annual report year: 1980

**Studier af faldvinde på Risø**

*General information*
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mahrt, J. M. (Ekstern), Larsen, S. E. (Intern), Gryning, S. (Intern)
Pages: 26-28
Publication date: 1980
Main Research Area: Technical/natural sciences

*Publication information*
Journal: Vejret
ISSN (Print): 0106-5025
Original language: Danish
Source: orbit
Source-ID: 283200
Publication: Communication › Journal article – Annual report year: 1980

**Use of a Puff-Model to Calculate Dispersion from a Strongly Time Dependent Source**

*General information*
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Mikkelsen, T. (Intern), Larsen, S. E. (Intern), Troen, I. (Intern)
Pages: 575-614
Publication date: 1980

*Host publication information*
Title of host publication: Seminar on Radioactive Releases and Their Dispersion in the Atmosphere Following a Hypothetical Reactor Accident
Volume: 2
Place of publication: Luxembourg
Publisher: Commission of the European Communities
Editors: Hoeck, F. V., Recht, P.
Main Research Area: Technical/natural sciences
Conference: Seminar on Radioactive Releases and Their Dispersion in the Atmosphere Following a Hypothetical Reactor Accident, Risø, 22-25 April, 01/01/1980
Source: orbit
Source-ID: 283212
Publication: Research › Article in proceedings – Annual report year: 1980

**Analysis of Data from 3-Dimensional Hot-Wire Probes using Comparison with Profile Instrumentation for Calibration**

*General information*
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Mathiassen, O. (Ekstern), Busch, N. E. (Ekstern)
Pages: 591-597
Publication date: 1979

*Host publication information*
A Phase-Locked Loop Continuous Wave Sonic Anemometer-Thermometer

A continuous wake sonic anemometer-thermometer has been developed for simultaneous measurements of vertical velocity and temperature. The phase angle fluctuations are detected by means of a monolithic integrated phase-locked loop, the latter feature providing for inexpensive and accurate electronics. The principle is described and discussed.

Data Analysis of Atmospheric Measurements

Meteorological field instrumentation. Wind speed and direction of cups, vanes, propellers, and lasers
A Statistical Study of a Composite Isotopic Paleotemperature Series from the Last 700,000 Years

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Lundtang Petersen, E. (Intern), Larsen, S. E. (Intern)
Pages: 193-200
Publication date: 1978
Main Research Area: Technical/natural sciences

Publication information
Journal: TELLUS
Volume: 30
Issue number: 3
ISSN (Print): 0040-2826
Original language: English
Source: orbit
Source-ID: 282776
Publication: Research › Journal article – Annual report year: 1978

Comment on: Measurement of Air Velocity by Means of a Triple Hot-Wire Probe

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Rasmussen, K. R. (Ekstern)
Pages: 4-5
Publication date: 1978
Main Research Area: Technical/natural sciences

Publication information
Journal: Danske Industri Syndikat A/S Information
Issue number: 23
Original language: English
Source: orbit
Source-ID: 282733
Publication: Research › Journal article – Annual report year: 1978

Stochastic Model Building for Discrete Time Series Applied on a Paleotemperature Series from the Last 700,000 Years

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Lundtang Petersen, E. (Intern), Larsen, S. E. (Intern)
Pages: 109-113
Publication date: 1978

Host publication information
Title of host publication: Proceedings of the Nordic Symposium on Climatic Changes and Related Problems
Place of publication: København
Publisher: Det Danske Meteorologiske Institut
Editor: Frydendahl, K.
Dynamic Calibration of Temperature Wires in Moving Air

Presents a brief description of the development of a method for measuring transfer functions of temperature sensors in moving air.

Stochastic Model Building on a Paleotemperature Series from the Last 700,000 Years

Strong turbulence in magnetized plasmas
Dynamic Calibration of Temperature Wires: Acoustic Laboratory. Technical University of Denmark, Report No. 16

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy, Meteorology, Wind Energy Division
Authors: Højstrup, J. (Intern), Rasmussen, K. (Ekstern), Larsen, S. E. (Intern)
Number of pages: 60
Publication date: 1976

Dynamic Calibration of Temperature Wires in Still Air

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Højstrup, J. (Intern), Rasmussen, K. (Ekstern), Larsen, S. E. (Intern)
Pages: 22-30
Publication date: 1976

Hot-Wire Measurements in the Atmosphere.: Part II. A Field Experiment in the Surface Boundary Layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Busch, N. E. (Ekstern)
Pages: 5-21
Publication date: 1976


General information
State: Published
Statistical Description of Air Pollution Concentration, Averaging Time and Frequency: Summary

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Lundtang Petersen, E. (Intern)
Publication date: 1974

Host publication information
Title of host publication: Proceedings of the 5. Meeting of the Expert Panel on Air Pollution Modelling
Place of publication: Bruxelles
Publisher: NATO/CCMS
Main Research Area: Technical/natural sciences
Conference: 5th Meeting of the Expert Panel on Air Pollution Modelling, Risø, Denmark, 03/06/1974 - 03/06/1974
Source: orbit
Source-ID: 284873
Publication: Research › Article in proceedings – Annual report year: 1974

Statistical Description of Air Pollution Concentration, Averaging Time and Frequency

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern), Lundtang Petersen, E. (Intern)
Pages: 163-168
Publication date: 1974

Host publication information
Title of host publication: Symposium on Atmospheric Diffusion and Air Pollution of the American Meteorological Society
Place of publication: Boston
Publisher: American Meteorological Society
Main Research Area: Technical/natural sciences
Conference: Symposium on Atmospheric Diffusion and Air Pollution of the American Meteorological Society, Santa Barbara, 9-13 September, 01/01/1974
Source: orbit
Source-ID: 284874
Publication: Research › Article in proceedings – Annual report year: 1974

Spectra of turbulence in the atmospheric surface layer

General information
State: Published
Organisations: Risø National Laboratory for Sustainable Energy
Authors: Busch, N. E. (Ekstern), Larsen, S. E. (Intern)
Pages: 187-208
Publication date: 1972

Host publication information
Title of host publication: Aspects of Research at Risø
Spectral analysis based on analog technique

General information
State: Published
Organisations: Meteorology, Wind Energy Division, Risø National Laboratory for Sustainable Energy
Authors: Larsen, S. E. (Intern)
Pages: 137-154
Publication date: 1971

Host publication information
Title of host publication: Statistical Methods and Instrumentation in Geophysics : Proceedings
Place of publication: Oslo
Publisher: Teknologisk Forlag
Editor: Kjelaas, A.
Main Research Area: Technical/natural sciences
Conference: NATO Advanced Study Institute on Statistical Methods and Instrumentation in Geophysics, Geilo, Norway, 12/04/1971 - 12/04/1971
Electronic versions:
Spectral_analysis_based_on_analog_technique.pdf
Source: orbit
Source-ID: 285609
Publication: Research - peer-review › Article in proceedings – Annual report year: 1971

Projects:

Coupling atmospheric and wave models for storm conditions
Department of Wind Energy
Period: 15/04/2014 → 14/04/2017
Number of participants: 7
Phd Student:
Du, Jianting (Intern)
Supervisor:
Kelly, Mark C. (Intern)
Larsen, Søren Ejling (Intern)
Main Supervisor:
Larsén, Xiaoli Guo (Intern)
Examiner:
Bredmose, Henrik (Intern)
Bidlot, Jean Raymond (Ekstern)
Rutgersson, Anna (Ekstern)

Financing sources
Source: Internal funding (public)
Name of research programme: Samfinansieret - Andet
Project: PhD

WA$P$ e-learning courses
Development and teaching of on-line WA$P$ e-learning courses. The 9-week course is intended for engineers, scientists and others, primarily working within the field of wind energy, who require a working knowledge of the WA$P$ program. Aspects of the theories underlying the program are presented, but the course stresses practical experience and examples on the use of WA$P$. 
Department of Wind Energy

Meteorology
Period: 10/02/2014 → 31/12/2017
Number of participants: 10
Project participant:
Mortensen, Niels Gylling (Intern)
Rathmann, Ole Steen (Intern)
Nielsen, Morten (Intern)
Kelly, Mark C. (Intern)
Gryning, Sven-Erik (Intern)
Troen, Ib (Intern)
Lundtang Petersen, Erik (Intern)
Peña, Alfredo (Intern)
Hansen, Brian Ohrbeck (Intern)
Larsen, Søren Ejling (Intern)

Project

Offshore Wind Turbine Foundation Design
Department of Wind Energy
Period: 01/10/2011 → 22/06/2015
Number of participants: 7
Phd Student:
Passon, Patrik Alexander (Ekstern)
Supervisor:
Larsen, Søren Ejling (Intern)
Rasmussen, Jørgen Hvenekær (Intern)
Main Supervisor:
Branner, Kim (Intern)
Examiner:
Bredmose, Henrik (Intern)
Muskulus, Michael (Ekstern)
Tarp-Johansen, Niels Jacob (Intern)

Financing sources
Source: Internal funding (public)
Name of research programme: ErhvervsPhD-ordningen VTU
Project: PhD

Virtual Campus Hub
Four technical universities in Europe work together in this EU-funded project to lower the barriers for collaboration across borders.

Universities have an increasing number of and increasingly diverse relations with the outside world but Information and Communications Technology (ICT) is still inward looking. Virtual Campus Hub aims to support a number of activities that are common today for international cooperation in the field of education, research and innovation.

Project partners:
Technical University of Denmark (DTU)
Kungliga Tekniska högskolan, Sweden (KTH)
Politecnico di Torino, Italy (Polito)
Eindhoven University of Technology, Netherlands (TU/e)

Department of Wind Energy
Meteorology
Aeroelastic Design
Wind Energy Systems
Office for Study Programmes and Student Affairs
Period: 01/10/2011 → 30/09/2013
Number of participants: 24
Acronym: VCH

Project participant:
Karagali, Ioanna (Intern)
Larsen, Søren Ejling (Intern)
Bingöl, Ferhat (Intern)
Badger, Jake (Intern)
Nielsen, Morten (Intern)
Peña, Alfredo (Intern)
Gryning, Sven-Erik (Intern)
Berg, Jacob (Intern)
Bergami, Leonardo (Intern)
Cronin, Tom (Intern)
Hansen, Brian Ohrbeck (Intern)
Jowitt, William Richard (Intern)
Ejsing Jørgensen, Hans (Intern)
Kelly, Mark C. (Intern)
Mortensen, Niels Gylling (Intern)
Lundtang Petersen, Erik (Intern)
Rathmann, Ole Steen (Intern)
Verelst, David Robert (Intern)
Nielsen, Rikke Anne (Intern)
Prag, Sidsel-Marie Winther (Intern)
Stenbæk, Lise (Intern)
Gaunaa, Mac (Intern)
Andersen, Peter Bjørn (Intern)

Project Manager, academic:
Badger, Merete (Intern)

Relations
Activities:
E-learning activities at DTU Wind Energy
Virtual Campus Hub

Publications:
Dissemination and Exploitation Strategy
The Virtual Campus Hub Concept

Press / Media items:
Universiteterne mødes på nettet: E-system. Fire tekniske universiteter er forbundet via den europæiske e-infrastruktur eduGAIN.
International students get single sign-on for wind energy training: A Danish university avoids unnecessary hassles with user management by exchanging student data in an international identity federation.
Den europæiske internetsstruktur Géant styrker universiteters samarbejde

Harnessing the power of wind with a learning platform

Numerical modelling of the boundary-layer wind profile
Department of Wind Energy
Period: 15/10/2010 → 21/02/2014
Number of participants: 6
Phd Student:
Pedersen, Jesper Grønnegaard (Intern)
Supervisor:
Kelly, Mark C. (Intern)
Main Supervisor:
Gryning, Sven-Erik (Intern)
Examiner:
Larsen, Søren Ejling (Intern)
Rutgersson, Anna (Ekstern)
Zagar, Mark (Ekstern)

**Financing sources**
Source: Internal funding (public)
Name of research programme: Institut, samfinansiering
Project: PhD

**Boundary-layer wind profile, measurements and theory**

Department of Wind Energy
Period: 15/09/2010 → 27/01/2014
Number of participants: 6
Phd Student:
Floors, Rogier Ralph (Intern)
Supervisor:
Peña, Alfredo (Intern)
Main Supervisor:
Gryning, Sven-Erik (Intern)
Examiner:
Larsen, Søren Ejling (Intern)
Gulstad, Line (Ekstern)
Wilczak, James M. (Ekstern)

**Financing sources**
Source: Internal funding (public)
Name of research programme: Marie Curie (EU-stipendium)
Project: PhD

**Offshore Wind Energy: Wind and Sea Surface Temperature from Satellite Observations**

Department of Wind Energy
Period: 01/03/2009 → 24/08/2012
Number of participants: 7
Phd Student:
Karagali, Ioanna (Intern)
Supervisor:
Badger, Merete (Intern)
Heyer, Jacob L. (Ekstern)
Main Supervisor:
Hasager, Charlotte Bay (Intern)
Examiner:
Larsen, Søren Ejling (Intern)
Fensholt, Rasmus (Ekstern)
Furevik, Birgitte R. (Ekstern)

**Financing sources**
Source: Internal funding (public)
Name of research programme: Institut, samfinansiering
Project: PhD

**Kombineret fysik og statistisk on-line forudsigelse af produktion fra vindmølleparker**

Department of Informatics and Mathematical Modeling
Period: 01/04/1997 → 20/05/2003
Number of participants: 6
Phd Student:
WAsP courses and certification
Development and teaching of standard on-site WAsP courses. The 3-day WAsP course is intended for engineers, scientists and others, primarily working within the field of wind energy, who require a working knowledge of the WAsP program. Aspects of the theories underlying the program are presented, but the course stresses practical experience and examples on the use of WAsP. The WAsP course teachers also develop and carry out WAsP certification examinations.

Department of Wind Energy
Meteorology
Period: 01/01/1991 → 31/12/2017
Number of participants: 10
Project participant:
Mortensen, Niels Gylling (Intern)
Rathmann, Ole Steen (Intern)
Nielsen, Morten (Intern)
Kelly, Mark C. (Intern)
Gryning, Sven-Erik (Intern)
Troen, Ib (Intern)
Lundtang Petersen, Erik (Intern)
Peña, Alfredo (Intern)
Hansen, Brian Ohrbeck (Intern)
Larsen, Søren Ejling (Intern)

Activities:

Sea-surface roughness and wave characteristics-The variety of expressions
Period: 14 May 2014 → 17 May 2014
Søren Ejling Larsen (Lecturer)
Department of Wind Energy
Meteorology

Description
Review of expression for the sea surface roughness

Related event
Mini Workshop
14/05/2014 → 17/05/2014
Uppsala, Sweden
Activity: Talks and presentations › Conference presentations