Publications:

A comprehensive approach for modelling horizontal diffuse radiation, direct normal irradiance and total tilted solar radiation based on global radiation under Danish climate conditions
Publication: Research - peer-review › Journal article – Annual report year: 2018

Analysis and validation of a quasi-dynamic model for a solar collector field with flat plate collectors and parabolic trough collectors in series for district heating
Publication: Research - peer-review › Journal article – Annual report year: 2018

A simplified model for linear correlation between annual yield and DNI for parabolic trough collectors
Publication: Research - peer-review › Journal article – Annual report year: 2018

Thermo-economic optimization of a hybrid solar district heating plant with flat plate collectors and parabolic trough collectors in series
Publication: Research - peer-review › Journal article – Annual report year: 2018

Yearly thermal performances of solar heating plants in Denmark – Measured and calculated
Publication: Research - peer-review › Journal article – Annual report year: 2018

A CSP plant combined with biomass CHP using ORC-technology in Bronderslev Denmark
Publication: Research › Article in proceedings – Annual report year: 2018

ANALYSIS OF MEASURED AND MODELED SOLAR RADIATION AT THE TARS SOLAR HEATING PLANT IN DENMARK
Publication: Research › Article in proceedings – Annual report year: 2018

Annual measured and simulated thermal performance analysis of a hybrid solar district heating plant with flat plate collectors and parabolic trough collectors in series
Publication: Research - peer-review › Journal article – Annual report year: 2017

Availability of high quality weather data measurements
Publication: Research › Report – Annual report year: 2017

Experimental investigations on solar heating/heat pump systems for single family houses
Publication: Research › Report – Annual report year: 2017

Optical losses due to tracking on solar thermal collectors
Publication: Research › Article in proceedings – Annual report year: 2018
Performance of a Solar Heating System with Photovoltaic Thermal Hybrid Collectors and Heat Pump
Publication: Research - peer-review › Article in proceedings – Annual report year: 2017

Drainback solar thermal systems: A review
Publication: Research - peer-review › Journal article – Annual report year: 2016

Laboratory Testing of Solar Combi System with Compact Long Term PCM Heat Storage
Publication: Research - peer-review › Article in proceedings – Annual report year: 2016

Tårs 10000 m² CSP + Flat Plate Solar Collector Plant - Cost-Performance Optimization of the Design
Publication: Research - peer-review › Journal article – Annual report year: 2016

A new Laplace transformation method for dynamic testing of solar collectors
Publication: Research - peer-review › Journal article – Annual report year: 2015

Behavior of a solar collector loop during stagnation
Publication: Research - peer-review › Journal article – Annual report year: 2014

Calculated thermal performance of solar collectors based on measured weather data from 2001-2010
Publication: Research - peer-review › Conference article – Annual report year: 2015

Drain Back Systems in Laboratory and in Practice
Publication: Research - peer-review › Conference article – Annual report year: 2015

Long term testing and evaluation of PV modules with and without Sunarc antireflective coating of the cover glass
Publication: Research - peer-review › Conference article – Annual report year: 2015

Mathematical modelling of unglazed solar collectors under extreme operating conditions
Publication: Research - peer-review › Journal article – Annual report year: 2015

Side by side tests of two SDHW systems with solar collectors with and without antireflection treatment
Publication: Research - peer-review › Conference article – Annual report year: 2015

Simulation of a solar collector array consisting of two types of solar collectors, with and without convection barrier
Publication: Research - peer-review › Conference article – Annual report year: 2015

Testing, development and demonstration of large scale solar district heating systems
Publication: Research - peer-review › Journal article – Annual report year: 2015

Drain Back, Low Flow Solar Combi Systems: Design, Monitoring and Simulation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Investigations of Intelligent Solar Heating Systems for Single Family House
Publication: Research - peer-review › Conference article – Annual report year: 2014

Thermal performance of solar district heating plants in Denmark
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

A non-parametric method for correction of global radiation observations
Publication: Research - peer-review › Journal article – Annual report year: 2013
Investigations on efficiencies of HT solar collectors for different flow rates and collector tilts
Publication: Research - peer-review › Article in proceedings – Annual report year: 2014

Short-term heat load forecasting for single family houses
Publication: Research - peer-review › Journal article – Annual report year: 2013

Solar/electric heating systems for the future energy system
Publication: Research - peer-review › Report – Annual report year: 2013

An improved dynamic test method for solar collectors
Publication: Research - peer-review › Report – Annual report year: 2012

A simplified heat pump model for use in solar plus heat pump system simulation studies
Publication: Research - peer-review › Conference article – Annual report year: 2012

A tool for standardized collector performance calculations including PVT
Publication: Research - peer-review › Conference article – Annual report year: 2012

Description of SCEnO-Calc (Solar Collector Energy Output Calculator), a program for calculation of annual solar collector energy output
Publication: Research - peer-review › Report – Annual report year: 2012

Development of seasonal heat storage based on stable supercooling of a sodium acetate water mixture
Publication: Research - peer-review › Conference article – Annual report year: 2012

Efficiencies of flat plate solar collectors at different flow rates
Publication: Research - peer-review › Conference article – Annual report year: 2012

Evaluation of long-term global radiation measurements in Denmark and Sweden
Publication: Research - peer-review › Paper – Annual report year: 2012

Experimental Validation and Model Verification for a Novel Geometry ICPC Solar Collector
Publication: Research - peer-review › Paper – Annual report year: 2012

Investigation of Thermal Performance of Flat Plate and Evacuated Tubular Solar Collectors According to a New Dynamic Test Method
Publication: Research - peer-review › Conference article – Annual report year: 2012

Load Forecasting for Households
Publication: Research - peer-review › Report – Annual report year: 2012

Measurement and modelling of a multifunctional solar plus heatpump system from Nilan.: Experiences from one year of test operation.
Publication: Research - peer-review › Paper – Annual report year: 2012

Model predictive control for a smart solar tank based on weather and consumption forecasts
Publication: Research - peer-review › Conference article – Annual report year: 2012

Optimization of pellet–solar combsystems for buildings using a DoE approach
Publication: Research - peer-review › Paper – Annual report year: 2012
Performance of solar collectors under low temperature conditions: Measurements and simulations results
Publication: Research - peer-review › Paper – Annual report year: 2012

System analysis of a multifunctional PV/T hybrid solar window
Publication: Research - peer-review › Journal article – Annual report year: 2012

Thermal behavior of a heat exchanger module for seasonal heat storage
Publication: Research - peer-review › Conference article – Annual report year: 2012

Thermal performance of marketed SDHW systems under laboratory conditions
Publication: Research - peer-review › Paper – Annual report year: 2012

TRNSYS Type 832 v5.00 „Dynamic Collector Model by Bengt Perers“: Updated Input-Output Reference
Publication: Research - peer-review › Report – Annual report year: 2012

Energy savings for solar heating systems in one family houses
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Experiences and lessons learned from 30 years of dynamic collector testing, modelling and simulation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Experimental studies on seasonal heat storage based on stable supercooling of a sodium acetate water mixture
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Heat transfer capacity of a heat exchanger module for seasonal heat storage
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Modelling, Measurements and Validation of a solar plus heat pump compact unit from Nilan
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Models of the heat dynamics of solar collectors for performance testing
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

New tool for standardized collector performance calculations
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Opensource Software for MLR-Modelling of Solar Collectors
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Performance evaluation of low concentrating photovoltaic/thermal systems: A case study from Sweden
Publication: Research - peer-review › Journal article – Annual report year: 2012

Short-Term Solar Collector Power Forecasting
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Solar combisystems with forecast control to increase the solar fraction and lower the auxiliary energy cost
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

Study on a tracking solar collector
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011
Validation of a dynamic model for unglazed collectors including condensation. Application for standardized testing and simulation in TRNSYS and IDA
Publication: Research - peer-review › Article in proceedings – Annual report year: 2011

An improved solar collector model including condensation and asymmetric incidence angle modifiers
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

DETAILED MODELLING OF CHARGING BEHAVIOUR OF SMART SOLAR TANKS
Publication: Research - peer-review › Poster – Annual report year: 2010

DETAILED MODELLING OF CHARGING BEHAVIOUR OF SMART SOLAR TANKS
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Optimization of systems with the combination of ground-source heat pump and solar collectors in dwellings
Publication: Research - peer-review › Journal article – Annual report year: 2010

Performance of a multifunctional PV/T hybrid solar window
Publication: Research - peer-review › Journal article – Annual report year: 2010

Pressure and temperature development in solar heating system during stagnation
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Solar Electric heating systems using smart solar tanks and variable electricity costs
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Solfangerkreds med stor ekspansionsbeholder og fordampning i solfanger ved faretruede høje temperaturer til sikring af solfangervæske og anlæg
Publication: Research › Report – Annual report year: 2010

Test plant and development of tools for design of combi-heating systems for large buildings
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

The covariation of heating load and solar energy production with the electricity price variations in Denmark
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Theoretical study on a solar collector loop during stagnation
Publication: Research › Article in proceedings – Annual report year: 2010

Theoretical study on a solar collector loop during stagnation
Publication: Research › Poster – Annual report year: 2010

Thermal advantage of tracking solar collectors under Danish weather conditions
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

THREE DIMENSIONAL RAY TRACING AND RELIABILITY ANALYSES OF A NOVEL ICPC COLLECTOR AFTER TWELVE YEARS OF OPERATION
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010

Towards seasonal heat storage based on stable super cooling of sodium acetate trihydrate
Publication: Research - peer-review › Article in proceedings – Annual report year: 2010
A new concept for combisystems characterization: The FSC method
Publication: Research - peer-review › Journal article – Annual report year: 2009

EFFICIENCY AND LIFETIME OF SOLAR COLLECTORS FOR SOLAR HEATING PLANTS
Publication: Research › Sound/Visual production (digital) – Annual report year: 2009

EFFICIENCY AND LIFETIME OF SOLAR COLLECTORS FOR SOLAR HEATING PLANTS
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Levetid for solfangere i solvarmecentraler
Publication: Research › Report – Annual report year: 2009

Projected beam irradiation at low latitudes using Meteonorm database
Publication: Research - peer-review › Journal article – Annual report year: 2009

Solar Electric Heating for the future Energy System
Publication: Research - peer-review › Article in proceedings – Annual report year: 2009

Solar Heating Research at Byg DTU
Publication: Research › Poster – Annual report year: 2008

Projects:
IEA SHC Task 55 - Integration of Large SHC Systems into District Heating and Cooling (DHC) Networks (II) Project
IEA PVPS Task 16 Solar ressource for high penetration Project
Development and validation of an in situ solar collector field test method Project
Thermal performance of tracking concentrating solar collectors Project
IEA Task 55 Large scale solar district heating and cooling systems Project
PVT/heat pump system Project
CSP (Concentrated Solar Power) plant with biomass heat and power plant and ORC system Project
Pilot installation of hybrid solar collectors in district heating plants Project
IEA Task 54 Price reduction of solar thermal systems Project
Follow up on large scale storage in Denmark, Gram
Project

Follow up on large scale heat storages in Denmark
Project

Solar heating plant with tracking concentrating solar collectors and flat plate solar collectors
Project

Solvarme og energiforsyningens samfundsøkonomi, IEA SHC Task 52
Project

Development of PVT module for multiapartment buildings
Project

Aluminiumsolfangere til fjernvarmen
Project

Experimental and theoretical investigations of combined solar heating/heat pump systems for single Family houses
Project

VELUX visiting professor on solar heating
Project

Testing, development and demonstration of large scale solar district heating system
Project

Powerpipe hybrid solar panel
Project

IEA Task 44 Systems Using Solar Thermal Energy In Combination with Heat Pumps
Project

Combined development of compact thermal energy storage technologies
Project

Sustainable energy
Project

IEA Task 45 Large Solar Heating & Cooling Systems
Project

Test facility for air collectors
Project

Optimization of solar heating and water heating combosystems applied in buildings
Project

Dansk deltagelse i IEA Task 44: Systems using solar thermal energy in combination with heat pumps
Project
Kvalitetsikring af solvarme, fase 3
Project

Forskningsamarbejde mellem forskningsinstitutioner og små og mellemstore virksomheder : Solar/electric heating systems in the future energy system
Project

Solar/electric heating systems in the future energy system
Project

Competitive Solar Heating Systems for Residential Buildings
Project: PhD