Jørgen Arendt Jensen - Research outputs - Research - DTU Orbit (27/10/2018)

**Accuracy and Precision of a Plane Wave Vector Flow Imaging Method in the Healthy Carotid Artery**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**A Comparison Study of Vector Velocity, Spectral Doppler and Magnetic Resonance of Blood Flow in the Common Carotid Artery**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**Atherosclerotic Lesions in the Superficial Femoral Artery (SFA) Characterized with Velocity Ratios using Vector Velocity Ultrasound**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**Curvilinear 3-D Imaging Using Row–Column Addressed 2-D Arrays with a Diverging Lens: Phantom Study**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**Design of a novel zig-zag 192×192 Row Column Addressed Array Transducer: A simulation study.**


Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

**Evaluation of Peak Reflux Velocities with Vector Flow Imaging and Spectral Doppler Ultrasound in Varicose Veins**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**Increasing the field-of-view of row–column-addressed ultrasound transducers: implementation of a diverging compound lens**

Engholm, M., Beers, C., Bouzari, H., Jensen, J. A. & Thomsen, E. V. 2018 In : Ultrasonics. 88, p. 97–105

Research output: Research - peer-review › Journal article – Annual report year: 2018

**Non-invasive Estimation of Pressure Changes using 2-D Vector Velocity Ultrasound: An Experimental Study with In-Vivo Examples**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**Portable Vector Flow Imaging Compared with Spectral Doppler Ultrasonography**


Research output: Research - peer-review › Journal article – Annual report year: 2018

**Probe development of CMUT and PZT row-column-addressed 2-D arrays**


Research output: Research - peer-review › Journal article – Annual report year: 2018
Real-time 2-D Phased Array Vector Flow Imaging
Research output: Research - peer-review › Journal article – Annual report year: 2018

Resolving Ultrasound Contrast Microbubbles using Minimum Variance Beamforming
Research output: Research - peer-review › Journal article – Annual report year: 2018

Respiratory variability of peak velocities in the common femoral vein estimated with vector flow imaging and Doppler ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 2018

Ultrasound Open Platforms for Next-Generation Imaging Technique Development
Research output: Research - peer-review › Journal article – Annual report year: 2018

Vector Flow Imaging Compared with Pulse Wave Doppler for Estimation of Peak Velocity in the Portal Vein
Research output: Research - peer-review › Journal article – Annual report year: 2018

3-D Imaging using Row–Column-Addressed 2-D Arrays with a Diverging Lens: Phantom Study
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Accuracy and Precision of Plane Wave Vector Flow Imaging for Laminar and Complex Flow In Vivo
Research output: Research - peer-review › Article in proceedings – Annual report year: 2017

Advanced 3-D Ultrasound Imaging: 3-D Synthetic Aperture Imaging using Fully Addressed and Row-Column Addressed 2-D Transducer Arrays.
Research output: Research › Ph.D. thesis – Annual report year: 2017

A Methodology for Anatomic Ultrasound Image Diagnostic Quality Assessment
Research output: Research - peer-review › Journal article – Annual report year: 2016

Aortic Valve Stenosis Increases Helical Flow and Flow Complexity: A Study of Intra-operative Cardiac Vector Flow Imaging
High-frame-rate Imaging of a Carotid Bifurcation using a Low-complexity Velocity Estimation Approach


Improved Focusing Method for 3-D Imaging using Row–Column-Addressed 2-D Arrays


Output Pressure and Pulse-Echo Characteristics of CMUTs as Function of Plate Dimensions


Portable Ultrasound Imaging


Real-time Implementation of Synthetic Aperture Vector Flow Imaging on a Consumer-level Tablet


Simulating CMUT Arrays Using Time Domain FEA


Stenosis of the superficial femoral artery evaluated in-vivo with vector concentration - a novel ultrasound vector velocity derived flow parameter for measurement of flow complexity


Super-resolution Axial Localization of Ultrasound Scatter Using Multi-focal Imaging


Synthetic Aperture Sequential Beamforming using Spatial Matched Filtering


Transmitting Performance Evaluation of ASICs for CMUT-Based Portable Ultrasound Scanners


Ultrasonic 3-D Vector Flow Method for Quantitative In Vivo Peak Velocity and Flow Rate Estimation

Vector and Doppler Ultrasound Velocities Evaluated in a Flow Phantom and the Femoropopliteal Vein
Research output: Research - peer-review › Journal article – Annual report year: 2017

Vector Flow Imaging Compared with Conventional Doppler Ultrasound and Thermodilution for Estimation of Blood Flow in the Ascending Aorta
Research output: Research - peer-review › Journal article – Annual report year: 2015

Vector velocity estimation of blood flow – A new application in medical ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 2017

Velocity Estimation in Medical Ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 2017

Volumetric 3-D Vector Flow Measurements using a 62+62 Row-Column Addressed Array
Research output: Research - peer-review › Article in proceedings – Annual report year: 2018

3-D Imaging using Row–Column-Addressed 2-D Arrays with a Diverging Lens
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

3-D Vector Flow Estimation With Row–Column-Addressed Arrays
Research output: Research - peer-review › Journal article – Annual report year: 2016

3-D Vector Flow Imaging

3-D Vector Flow Using a Row-Column Addressed CMUT Array
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Accurate Angle Estimator for High-Frame-rate 2-D Vector Flow Imaging
Research output: Research - peer-review › Journal article – Annual report year: 2016

A framework for simulating ultrasound imaging based on first order nonlinear pressure–velocity relations.
Research output: Research - peer-review › Journal article – Annual report year: 2016
Analog Gradient Beamformer for a Wireless Ultrasound Scanner.
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Analysis of Systolic Backflow and Secondary Helical Blood Flow in the Ascending Aorta Using Vector Flow Imaging
Research output: Research - peer-review › Journal article – Annual report year: 2016

An improved minimum variance beamforming applied to plane-wave imaging in medical ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

A novel array processing method for precise depth detection of ultrasound point scatter
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Automatic Ultrasound Scanning
Research output: Research › Ph.D. thesis – Annual report year: 2017

Blood flow velocity in the Popliteal Vein using Transverse Oscillation Ultrasound.
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Capacitive Substrate Coupling of Row–Column-Addressed 2-D CMUT Arrays
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Elimination of Second-Harmonics in CMUTs using Square Pulse Excitation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Evaluation of healthy muscle tissue by strain and shear wave elastography – Dependency on depth and ROI position in relation to underlying bone
Research output: Research - peer-review › Journal article – Annual report year: 2016

Experimental 3-D Vector Velocity Estimation with Row-Column Addressed Arrays
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

Fabrication of Capacitive Micromachined Ultrasonic Transducers Using a Boron Etch-Stop Method
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016
**High Frame Rate Synthetic Aperture 3D Vector Flow Imaging**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**High frame rate synthetic aperture vector flow imaging for transthoracic echocardiography.**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**Hybrid Segmentation of Vessels and Automated Flow Measures in In-Vivo Ultrasound Imaging**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**Imaging of In-Vivo Pressure using Ultrasound**
Olesen, J. B., Jensen, J. A. & Traberg, M. S. 2016 Technical University of Denmark, Department of Electrical Engineering . 206 p.

**Intra-operative Vector Flow Imaging Using Ultrasound of the Ascending Aorta among 40 Patients with Normal, Stenotic and Replaced Aortic Valves**
Research output: Research - peer-review › Journal article – Annual report year: 2016

**In Vivo High Frame Rate Vector Flow Imaging Using Plane Waves and Directional Beamforming**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**Novel Automatic Detection of Pleura and B-lines (Comet-Tail Artifacts) on In-Vivo Lung Ultrasound Scans.**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**Optimization of Synthetic Aperture Image Quality**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**Optimized Plane Wave Imaging for Fast and High-Quality Ultrasound Imaging**
Research output: Research - peer-review › Journal article – Annual report year: 2016

**Plane-Wave Imaging Challenge in Medical Ultrasound**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016

**Preliminary investigation of an ultrasound method for estimating pressure changes in deep-positioned vessels.**
Research output: Research - peer-review › Article in proceedings – Annual report year: 2016
Clinical evaluation of synthetic aperture harmonic imaging for scanning focal malignant liver lesions

Convex Array Vector Velocity Imaging Using Transverse Oscillation and Its Optimization

Electrostatic and Small-Signal Analysis of CMUTs With Circular and Square Anisotropic Plates
la Cour, M. F., Christiansen, T. L., Jensen, J. A. & Thomsen, E. V. 2015 In : IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control. 62, 8, p. 1563-1579

First Clinical Investigations of New Ultrasound Techniques in Three Patient Groups: Patients with Liver Tumors, Arteriovenous Fistulas, and Arteriosclerotic Femoral Arteries
Hansen, P. M., Jensen, J. A. & Bachmann Nielsen, M. 2015 Technical University of Denmark, Department of Electrical Engineering. 91 p.

Fourier beamformation of multistatic synthetic aperture ultrasound imaging

High Frame Rate Vector Velocity Estimation using Plane Waves and Transverse Oscillation

High Resolution Depth-Resolved Imaging From Multi-Focal Images for Medical Ultrasound

Image Quality Degradation from Transmit Delay Profile Quantization

Implementation of real-time duplex synthetic aperture ultrasonography

Improved Vector Velocity Estimation using Directional Transverse Oscillation

Increased Frame Rate for Plane Wave Imaging Without Loss of Image Quality
Velocity Estimation of the Main Portal Vein with Transverse Oscillation.
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Volumetric Ultrasound Imaging with Row-Column Addressed 2-D Arrays Using Spatial Matched Filter Beamforming
Research output: Research - peer-review › Article in proceedings – Annual report year: 2015

Angle independent velocity spectrum determination.
Jensen, J. A. 5 Jun 2014 A61B8/06; G01P5/22; G01P5/24; G01S15/896 May 2014 28 Nov 2012WO2012IB02527
Research output: Research › Patent – Annual report year: 2012

Ultrasound imaging probe with sigma-delta beamformer and apodization therein
Research output: Research › Patent – Annual report year: 2012

2-D Tissue Motion Compensation of Synthetic Transmit Aperture Images
Research output: Research - peer-review › Journal article – Annual report year: 2014

3-D Velocity Estimation for Two Planes in vivo
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Accuracy and Sources of Error for an Angle Independent Volume Flow Estimator
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

A comparison between temporal and subband minimum variance adaptive beamforming
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Adaptive Multi-Lag for Synthetic Aperture Vector Flow Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Advanced 3-D Ultrasound Imaging:: 3-D Synthetic Aperture Imaging and Row-column Addressing of 2-D Transducer Arrays
Research output: Research › Ph.D. thesis – Annual report year: 2014

A Multi-threaded Version of Field II
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

A phantom study on temporal and subband Minimum Variance adaptive beamforming
A Transverse Oscillation Approach for Estimation of Three-Dimensional Velocity Vectors, Part I: Concept and Simulation Study
Research output: Research - peer-review › Journal article – Annual report year: 2014

A Transverse Oscillation Approach for Estimation of Three-Dimensional Velocity Vectors, Part II: Experimental Validation
Research output: Research - peer-review › Journal article – Annual report year: 2014

Clinical evaluation of Synthetic Aperture Sequential Beamforming and Tissue Harmonic Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Clinical evaluation of synthetic aperture sequential beamforming ultrasound in patients with liver tumors
Research output: Research - peer-review › Journal article – Annual report year: 2015

Comparison of 3-D Synthetic Aperture Phased-Array Ultrasound Imaging and Parallel Beamforming
Research output: Research - peer-review › Journal article – Annual report year: 2014

Comparison of Vector Velocity Imaging using Directional Beamforming and Transverse Oscillation for a Convex Array Transducer
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Data adaptive estimation of transversal blood flow velocities
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Determining inter-fractional motion of the uterus using 3D ultrasound imaging during radiotherapy for cervical cancer
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Dimensional Scaling for Optimized CMUT Operations
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

First report on intraoperative vector flow imaging of the heart among patients with healthy and diseased aortic valves
Research output: Research - peer-review › Journal article – Annual report year: 2014

Implementation of synthetic aperture imaging on a hand-held device
Increasing the Dynamic Range of Synthetic Aperture Vector Flow Imaging

Investigation of PDMS as coating on CMUTs for Imaging

In-vivo Convex Array Vector Flow Imaging

In-Vivo Synthetic Aperture and Plane Wave High Frame Rate Cardiac Imaging

Micromachined Integrated Transducers for Ultrasound Imaging

Modal radiation patterns of baffled circular plates and membranes

Noninvasive estimation of 2-D pressure gradients in steady flow using ultrasound

Non-invasive Estimation of Pressure Gradients in Pulsatile Flow using Ultrasound

Novel flow quantification of the carotid bulb and the common carotid artery with vector flow ultrasound.

Performance evaluation of compounding and directional beamforming techniques for carotid strain imaging using plane wave transmissions

Rapid Measurements of Intensities for Safety Assessment of Advanced Imaging Sequences
Real-Time GPU Implementation of Transverse Oscillation Vector Velocity Flow Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Row-Column Addressed 2-D CMUT Arrays with Integrated Apodization
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Row-Column Addressed 2-D CMUT Arrays with Integrated Apodization
Christiansen, T. L., Rasmussen, M. F., Jensen, J. A. & Thomsen, E. V. 2014
Research output: Research › Sound/Visual production (digital) – Annual report year: 2014

Simulation and Efficient Measurements of Intensities for Complex Imaging Sequences
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Simulation Study of Real Time 3-D Synthetic Aperture Sequential Beamforming for Ultrasound Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Synthetic Aperture Sequential Beamforming implemented on multi-core platforms
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Thermal Oxidation of Structured Silicon Dioxide
Research output: Research - peer-review › Journal article – Annual report year: 2014

Tissue Harmonic Synthetic Aperture Ultrasound Imaging
Research output: Research - peer-review › Journal article – Annual report year: 2014

Transverse Spectral Velocity Estimation
Jensen, J. A. 2014 In : IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control. 61, 11, p. 1815-1823
Research output: Research - peer-review › Journal article – Annual report year: 2014

Ultrasound Evaluation of an Abdominal Aortic Fluid-Structure Interaction Model
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

Volume Flow in Arteriovenous Fistulas Using Vector Velocity Ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 2014

Three dimensional (3d) transverse oscillation vector velocity ultrasound imaging.
Jensen, J. A. & Pihl, M. J. 18 Apr 2013 A61B8/06; G01P5/24; G01S15/58; G01S15/8918 Apr 2013 11 Oct 2011
WO2011IB02383
2-D Row-Column CMUT Arrays with an Open-Grid Support Structure
Research output: Research › Article in proceedings – Annual report year: 2013

3-D Ultrasound Imaging Performance of a Row-Column Addressed 2-D Array Transducer: A Measurement Study
Research output: Research › Article in proceedings – Annual report year: 2013

3D ultrasound imaging performance of a row-column addressed 2D array transducer: a simulation study
Research output: Research › Article in proceedings – Annual report year: 2013

A Delta-Sigma beamformer with integrated apodization
Research output: Research › Article in proceedings – Annual report year: 2013

Fast simulation of non-linear pulsed ultrasound fields using an angular spectrum approach
Research output: Research › Journal article – Annual report year: 2013

High frame rate synthetic aperture duplex imaging
Research output: Research › Article in proceedings – Annual report year: 2014

In-situ identification of marine organisms using high frequency, wideband ultrasound
Research output: Research › Ph.D. thesis – Annual report year: 2013

Internal strain estimation for quantification of human heel pad elastic modulus: A phantom study
Research output: Research › Journal article – Annual report year: 2013

Inter-operator Variability in Defining Uterine Position Using Three-dimensional Ultrasound Imaging
Research output: Research › Article in proceedings – Annual report year: 2013

Intraoperative Cardiac Ultrasound Examination Using Vector Flow Imaging
Research output: Research › Journal article – Annual report year: 2013

Intraoperative Vector Flow Imaging of the Heart
Research output: Research › Article in proceedings – Annual report year: 2013
Investigation of an angular spectrum approach for pulsed ultrasound fields
Research output: Research - peer-review › Journal article – Annual report year: 2013

In Vivo Three-Dimensional Velocity Vector Imaging and Volumetric Flow Rate Measurements
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Modeling and Measurements of CMUTs with Square Anisotropic Plates
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

New Developments in Vector Velocity Imaging using the Transverse Oscillation Approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Non-invasive Measurement of Pressure Gradients in Pulsatile Flow using Ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Non-invasive measurement of pressure gradients using ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Optimization of Transverse Oscillating Fields for Vector Velocity Estimation with Convex Arrays
Research output: Research - peer-review › Article in proceedings – Annual report year: 2013

Real Time Deconvolution of In-Vivo Ultrasound Images
Research output: Research - peer-review › Article in proceedings – Annual report year: 2014

SARUS: A Synthetic Aperture Real-Time Ultrasound System
Research output: Research - peer-review › Journal article – Annual report year: 2013
Sequential Beamforming Synthetic Aperture Imaging  
Research output: Research - peer-review  Journal article – Annual report year: 2013

Spectral Velocity Estimation in the Transverse Direction  
Research output: Research - peer-review  Article in proceedings – Annual report year: 2013

Synthetic aperture flow imaging using dual stage beamforming: Simulations and experiments  
Research output: Research - peer-review  Journal article – Annual report year: 2013

Tissue Harmonic Synthetic Aperture Imaging  
Research output: Research › Ph.D. thesis – Annual report year: 2014

Vector Volume Flow in Arteriovenous Fistulas  
Research output: Research - peer-review  Article in proceedings – Annual report year: 2013

Void-Free Direct Bonding of CMUT Arrays with Single Crystalline Plates and Pull-In Insulation  
Research output: Research - peer-review  Article in proceedings – Annual report year: 2013

Harmonic ultrasound imaging using synthetic aperture sequential beamforming  
Research output: Research › Patent – Annual report year: 2011

In Vivo Evaluation of Synthetic Aperture Sequential Beamforming  
In : Ultrasound in Medicine & Biology. 38, 4, p. 708–716  
Research output: Research - peer-review  Journal article – Annual report year: 2011

3D vector flow imaging  
Research output: Research › Ph.D. thesis – Annual report year: 2012

Age and gender related differences in aortic blood flow  
Research output: Research - peer-review  Article in proceedings – Annual report year: 2012

A Method for Direct Localized Sound Speed Estimates Using Registered Virtual Detectors  
Research output: Research - peer-review  Journal article – Annual report year: 2012

Clinical evaluation of synthetic aperture sequential beamforming  
Research output: Research - peer-review  Article in proceedings – Annual report year: 2012
Comparison of 3D Synthetic Aperture Imaging and Explososcan using Phantom Measurements
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Comparison of Real-Time In Vivo Spectral and Vector Velocity Estimation
Research output: Research - peer-review › Journal article – Annual report year: 2012

Compounding in synthetic aperture imaging
Research output: Research - peer-review › Journal article – Annual report year: 2012

Computational fluid dynamics using in vivo ultrasound blood flow measurements
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Imaging blood’s velocity using synthetic aperture ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Implementation of a versatile research data acquisition system using a commercially available medical ultrasound scanner
Research output: Research - peer-review › Journal article – Annual report year: 2012

Implementation of Tissue Harmonic Synthetic Aperture Imaging on a Commercial Ultrasound System
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

In vivo color flow mapping using synthetic aperture dual stage beamforming
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Measuring 3D Velocity Vectors using the Transverse Oscillation Method
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Methods and systems for producing compounded ultrasound images
Research output: Research › Patent – Annual report year: 2012

Modelling of CMUTs with Anisotropic Plates
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Multilayer piezoelectric transducer models combined with Field II
Research output: Research - peer-review › Journal article – Annual report year: 2012
Ultrasound backscatter from free-swimming fish at 1 MHz for fish identification
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

Ultrasound pulse-echo measurements on rough surfaces with linear array transducers
Research output: Research - peer-review › Article in proceedings – Annual report year: 2012

3D Vector Velocity Estimation using a 2D Phased Array
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

An Architecture and Implementation of Real-time Synthetic Aperture Compounding with SARUS
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Angular spectrum approach for fast simulation of pulsed non-linear ultrasound fields
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

An object-oriented multi-threaded software beamformation toolbox
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Arterial secondary blood flow patterns visualized with vector flow ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

A Spiral And Discipline-Oriented Curriculum In Medical Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Blood velocity estimation using ultrasound and spectral iterative adaptive approaches
Research output: Research - peer-review › Journal article – Annual report year: 2011

Comparison of Simulated and Measured Non-linear Ultrasound Fields
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Compound imaging using Synthetic Aperture Sequential Beamformation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011
Preliminary comparison between real-time in-vivo spectral and transverse oscillation velocity estimates
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Preliminary Experimental Verification of Synthetic Aperture Flow Imaging Using a Dual Stage Beamformer Approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Preliminary In-Vivo evaluation of Synthetic Aperture Sequential Beamformation using a multielement convex array
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Recent advances in blood flow vector velocity imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Scalable Intersample Interpolation Architecture for High-channel-count Beamformers
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Second harmonic imaging using synthetic aperture sequential beamforming
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Simulation of shadowing effects in ultrasound imaging from computed tomography images
Research output: Research › Article in proceedings – Annual report year: 2011

Simulation of ultrasound backscatter images from fish
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Synthetic Aperture Beamformation using the GPU
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011

Synthetic Aperture Focusing for a Single Element Transducer undergoing Helix Motion
Research output: Research - peer-review › Journal article – Annual report year: 2011

Third Harmonic Imaging using a Pulse Inversion
Research output: Research - peer-review › Article in proceedings – Annual report year: 2011
Simulation of Second Harmonic Ultrasound Fields
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Synthetic aperture flow imaging using a dual beamformer approach
Jensen, J. A. & Li, Y. 2010
Research output: Research - peer-review › Conference abstract for conference – Annual report year: 2010

Synthetic Aperture Flow Imaging Using a Dual Stage Beamformer Approach
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Testing of a spatial impulse response algorithm for double curved transducers
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Three-Dimensional Synthetic Aperture Focusing Using a Rocking Convex Array Transducer
Research output: Research - peer-review › Journal article – Annual report year: 2010

Transducer models in the ultrasound simulation program FIELD II and their accuracy
Research output: Research - peer-review › Journal article – Annual report year: 2010

Transverse Oscillations for Phased Array Vector Velocity Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2010

Ultrasound Image Quality Assessment: A framework for evaluation of clinical image quality
Research output: Research › Conference abstract for conference – Annual report year: 2010

Using Phased Array for Transverse Oscillation Vector Velocity Imaging
Pihl, M. J., Haugaard, P. & Jensen, J. A. 2010
Research output: Research › Conference abstract for conference – Annual report year: 2010

Non-invasive ambient pressure estimation using non-linear ultrasound contrast agents
Research output: Research › Ph.D. thesis – Annual report year: 2009

Synthetic Aperture Beamforming in Ultrasound using Moving Arrays.
Research output: Research › Ph.D. thesis – Annual report year: 2009

Method and apparatus for processing ultrasonic signals.
Jensen, J. A. 23 May 2009 G01S7/52; G01S7/523; G10K11/3423 May 2009 2 May 2008DK20080000633
Adaptive Receive and Transmit Apodization for Synthetic Aperture Ultrasound Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Adaptive Spectral Doppler Estimation
Research output: Research - peer-review › Journal article – Annual report year: 2009

Ambient pressure sensitivity of microbubbles investigated through a parameter study
Research output: Research - peer-review › Journal article – Annual report year: 2009

A new tool fixation for external 3D head tracking using the Polaris Vicra system with the HRRT PET scanner
Research output: Research - Poster – Annual report year: 2009

Angular Spectrum Simulation of Pulsed Ultrasound Fields
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

APES Beamforming Applied to Medical Ultrasound Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Broadband Minimum Variance Beamforming for Ultrasound Imaging
Research output: Research - peer-review › Journal article – Annual report year: 2009

Evaluation Study of Fast Spectral Estimators Using In-vivo Data
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

High Resolution Ultrasound Imaging Using Adaptive Beamforming with Reduced Number of Active Elements
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

In vivo comparison of three ultrasound vector velocity techniques to MR phase contrast angiography
Research output: Research - peer-review › Journal article – Annual report year: 2009

In-vivo Examples of Flow Patterns With The Fast Vector Velocity Ultrasound Method
Research output: Research - peer-review › Journal article – Annual report year: 2009

In Vivo Validation of a Blood Vector Velocity Estimator with MR Angiography
Research output: Research - peer-review › Journal article – Annual report year: 2009
New methods of ultrasound imaging - the tumbling blood
Research output: Research › Book chapter – Annual report year: 2009

Non-invasive estimation of blood pressure using ultrasound contrast agents
Research output: Research - peer-review › Journal article – Annual report year: 2009

Parameter sensitivity study of a Field II multilayer transducer model on a convex transducer
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Performance of the Transverse Oscillation method using beamformed data from a commercial scanner
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Precise Time-of-Flight Calculation For 3-D Synthetic Aperture Focusing
Research output: Research - peer-review › Journal article – Annual report year: 2009

Spatial resolution of the HRRT PET scanner using 3D-OSEM PSF reconstruction
Research output: Research - peer-review › Article in proceedings – Annual report year: 2009

Synthetic Aperture Sequential Beamforming and other Beamforming Techniques in Ultrasound Imaging
Research output: Research › Ph.D. thesis – Annual report year: 2008

Synthetic Aperture Vector Flow Imaging
Research output: Research › Ph.D. thesis – Annual report year: 2008

Coded Ultrasound for Blood Flow Estimation Using Subband Processing
Research output: Research - peer-review › Journal article – Annual report year: 2008

Duplex scanning using sparse data sequences
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Estimating 2-D Vector Velocities Using Multidimensional Spectrum Analysis
Research output: Research - peer-review › Journal article – Annual report year: 2008

Fast Blood Vector Velocity Imaging using ultrasound: In-vivo examples of complex blood flow in the vascular system
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008
Fast Parametric Beamformer for Synthetic Aperture Imaging
Nikolov, S., Jensen, J. A. & Tomov, B. G. 2008 In : IEEE Transactions on Ultrasonics Ferroelectrics and Frequency Control. 55, 8, p. 1755-1767
Research output: Research - peer-review › Journal article – Annual report year: 2008

Feasibility of non-linear simulation for Field II using an angular spectrum approach
Research output: Research › Article in proceedings – Annual report year: 2008

Gas enhanced magnetic resonance angiography of the cerebrum using carbon dioxide and oxygen - preliminary results
Research output: Research - peer-review › Poster – Annual report year: 2008

High Frame-Rate Blood Vector Velocity Imaging Using Plane Waves: Simulations and Preliminary Experiments
Research output: Research - peer-review › Journal article – Annual report year: 2008

Investigation of Sound Speed Errors in Adaptive Beamforming
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

In vitro measurement of ambient pressure changes using a realistic clinical setup
Research output: Research › Article in proceedings – Annual report year: 2008

In-vivo evaluation of three ultrasound vector velocity techniques with MR angiography
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

In-vivo validation of fast spectral velocity estimation techniques – preliminary results
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Multi-Frequency Encoding for Fast Color Flow or Quadroplex Imaging
Research output: Research - peer-review › Journal article – Annual report year: 2008

Plane Wave Medical Ultrasound Imaging Using Adaptive Beamforming
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Precision of Needle Tip Localization Using a Receiver in the Needle
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008
Pulse Wave Velocity in the Carotid Artery
Research output: Research - peer-review › Article in proceedings – Annual report year: 2008

Research interface for experimental ultrasound imaging - the CFU grabber project.
Research output: Research - peer-review › Poster – Annual report year: 2009

Rocking convex array used for 3D synthetic aperture focusing
Research output: Research › Article in proceedings – Annual report year: 2008

Simulation of microbubble response to ambient pressure changes
Research output: Research › Article in proceedings – Annual report year: 2008

Spatial Encoding Using a Code Division Technique for Fast Ultrasound Imaging
Research output: Research › Journal article – Annual report year: 2008

Synthetic Aperture Sequential Beamforming
Research output: Research › Article in proceedings – Annual report year: 2008

Testing of a one dimensional model for Field II calibration
Research output: Research › Article in proceedings – Annual report year: 2008

Transverse correlation: An efficient transverse flow estimator - initial results
Research output: Research › Article in proceedings – Annual report year: 2008

Adaptive blood velocity estimation in medical ultrasound
Research output: Research › Article in proceedings – Annual report year: 2007

A novel method for direct localized sound speed measurement using the virtual source paradigm
Research output: Research › Article in proceedings – Annual report year: 2007

Coded excitation and sub-band processing for blood velocity estimation in medical ultrasound
Research output: Research › Article in proceedings – Annual report year: 2007

Coded ultrasound for blood flow estimation using subband processing
Designing waveforms for temporal encoding using a frequency sampling method
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Effective and versatile software beamformation toolbox
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Effects influencing focusing in synthetic aperture vector flow imaging
Research output: Research - peer-review › Journal article – Annual report year: 2007

Examples of in-vivo blood vector velocity estimation.
Research output: Research - peer-review › Journal article – Annual report year: 2007

Fast Blood Vector Velocity Imaging: Simulations and Preliminary In Vivo Results
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Fast Spectral Velocity Estimation Using Adaptive Techniques: In-Vivo Results
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Improved Beamforming for Lateral Oscillations in Elastography Using Synthetic Aperture Imaging
Research output: Research › Article in proceedings – Annual report year: 2006

In-vivo evaluation of convex array synthetic aperture imaging
Research output: Research - peer-review › Journal article – Annual report year: 2007

In-vivo examples of synthetic aperture vector flow imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Medical ultrasound imaging
Research output: Research - peer-review › Journal article – Annual report year: 2007
Minimum Variance Beamforming for High Frame-Rate Ultrasound Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Multi-dimensional spectrum analysis for 2-D vector velocity estimation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Multi-Frequency Encoding for Rapid Color Flow and Quadruplex imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Precise Time-of-Flight Calculation For 3D Synthetic Aperture Focusing
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

PSF dedicated to estimation of displacement vectors for tissue elasticity imaging with ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 2007

Synthetic Aperture Focusing Applied to Imaging Using a Rotating Single Element Transducer
Research output: Research › Article in proceedings – Annual report year: 2007

System Architecture of an Experimental Synthetic Aperture Real-Time Ultrasound System
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Validation of Transverse Oscillation Vector Velocity Estimation In-Vivo
Research output: Research - peer-review › Article in proceedings – Annual report year: 2007

Spectral velocity estimation using autocorrelation functions for sparse data sets
Jensen, J. A. 1 Dec 2006 A61B8/06; G01S15/58; G01S15/8912 Jan 2006 2 Jul 2004DK20040001056
Research output: Research › Patent – Annual report year: 2012

2-D blood vector velocity estimation using a phase shift estimator
Research output: Research › Ph.D. thesis – Annual report year: 2006

A Frequency Splitting Method For CFM Imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 2006

Cardiac In-vivo Measurements Using Synthetic Transmit Aperture Ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2006
Designing Non-linear Frequency Modulated Signals For Medical Ultrasound Imaging
Research output: Research - peer-review ▶ Article in proceedings – Annual report year: 2006

Directional velocity estimation using a spatio-temporal encoding technique based on frequency division for synthetic transmit aperture ultrasound
Research output: Research - peer-review ▶ Journal article – Annual report year: 2006

Estimation of velocity vector angles using the directional cross-correlation method
Research output: Research - peer-review ▶ Journal article – Annual report year: 2006

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Frequency division transmission imaging and synthetic aperture reconstruction
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Introduction to the Special Issue on Novel Equipment for Ultrasound Research
Research output: Research - peer-review ▶ Journal article – Annual report year: 2006

Investigation of Transverse Oscillation Method
Research output: Research - peer-review ▶ Journal article – Annual report year: 2006

Motion compensated beamforming in synthetic aperture vector flow imaging
Research output: Research - peer-review ▶ Article in proceedings – Annual report year: 2006

Parameter study of 3D synthetic aperture post-beamforming procedure.
Research output: Research - peer-review ▶ Journal article – Annual report year: 2006

Parametric Beamformer for Synthetic Aperture Ultrasound Imaging
Research output: Research - peer-review ▶ Article in proceedings – Annual report year: 2006

Plane wave fast color flow mode imaging: Parameter study
Research output: Research - peer-review ▶ Article in proceedings – Annual report year: 2006

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Experimental investigation of synthetic aperture flow angle estimation
Research output: Research - peer-review › Article in proceedings – Annual report year: 2005

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Research output: Research - peer-review › Article in proceedings – Annual report year: 2005

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Research output: Research › Ph.D. thesis – Annual report year: 2005

Spatio-temporal encoding using narrow-band linear frequency modulated signals in synthetic aperture ultrasound imaging
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Ultrasound Research Scanner for Real-time Synthetic Aperture Data Acquisition
Research output: Research - peer-review › Journal article – Annual report year: 2005

Use of modulated excitation signals in medical ultrasound. Part III: High frame rate imaging
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Gammelmark, K., Jensen, J. A. & Dall, J. Dec 2004 Technical University of Denmark, Department of Electrical Engineering. 182 p.
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Research output: Research › Ph.D. thesis – Annual report year: 2003

**A method for real-time three-dimensional vector velocity imaging**
Research output: Research › peer-review › Article in proceedings – Annual report year: 2003

**Clinical evaluation of coded excitation in medical ultrasound**
Research output: Research › peer-review › Journal article – Annual report year: 2003

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Research output: Research › peer-review › Article in proceedings – Annual report year: 2003

**Directional velocity estimation using focusing along the flow direction II: Experimental investigation**
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**Experimental investigation of transverse flow estimation using transverse oscillation**
Research output: Research › peer-review › Article in proceedings – Annual report year: 2003

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Ultrasound imaging using coded signals
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A new architecture for a single-chip multi-channel beamformer based on a standard FPGA
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A new estimator for vector velocity estimation [medical ultrasonics]
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A new maximum likelihood blood velocity estimator incorporating spatial and temporal correlation
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Development and characterization of algorithms for estimation of blood velocity with ultrasound
Schlaikjer, M. & Jensen, J. A. 2001
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Efficient focusing scheme for transverse velocity estimation using cross-correlation
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3D synthetic aperture imaging using a virtual source element in the elevation plane
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Algorithms for estimating blood velocities using ultrasound
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A new approach for estimation of the axial velocity using ultrasound
Munk, P. & Jensen, J. A. 2000 In : Ultrasonics. 37, 10, p. 661-665
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Application of different spatial sampling patterns for sparse-array transducer design
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Clinical use and evaluation of coded excitation in B-mode images
Research output: Research - peer-review › Article in proceedings – Annual report year: 2000

Estimation of blood velocity vectors using ultrasound
Research output: Research › Ph.D. thesis – Annual report year: 2000

Estimation of vector velocity
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Fast simulation of ultrasound images
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Improved accuracy in the estimation of blood velocity vectors using matched filtering
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Improved beamforming performance using pulsed plane wave decomposition
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Neural network for RF-signal decomposition in ultrasound
Research output: Research - peer-review › Article in proceedings – Annual report year: 2000

Potential of coded excitation in medical ultrasound imaging
Research output: Research - peer-review › Journal article – Annual report year: 2000
Pre- and post-processing filters for improvement of blood velocity estimation
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Recursive ultrasound imaging
Jensen, J. A. & Nikolov, S. 2000 G01S15/89; G01S7/52; (IPC1-7): G01S15/89; G01S7/52; G10K11/3416 Nov 2000 5 Oct 1999DK19990000635
Research output: Research › Patent – Annual report year: 1999

Vector velocity estimation using directional beam forming and cross-correlation
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Research output: Research › Patent – Annual report year: 1999

Velocity estimation using recursive ultrasound imaging and spatially encoded signals
Research output: Research - peer-review › Article in proceedings – Annual report year: 2000

An effective coded excitation scheme based on a predistorted FM signal and an optimized digital filter
Research output: Research - peer-review › Article in proceedings – Annual report year: 1999

A new Calculation Procedure for Spatial Impulse Responses in Ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 1999

An improved estimation and focusing scheme for vector velocity estimation
Research output: Research - peer-review › Article in proceedings – Annual report year: 1999

Estimation of blood velocity vectors using transverse ultrasound beam focusing and cross-correlation
Research output: Research - peer-review › Article in proceedings – Annual report year: 1999

Experimental ultrasound system for real-time synthetic imaging
Research output: Research - peer-review › Article in proceedings – Annual report year: 1999

Recursive Ultrasound Imaging
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Apparatus and method for determining movements and velocities of moving objects
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Biomedical Engineering at the Technical University of Denmark
Research output: Research › Journal article – Annual report year: 1998

Performance of a vector velocity estimator
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Tissue motion in blood velocity estimation and its simulation
Research output: Research - peer-review › Article in proceedings – Annual report year: 1998

Ultrasound systems for blood velocity estimation
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A new approach to calculating spatial impulse responses
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Computer phantoms for simulating ultrasound B-mode and CFM images
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Field: A Program for Simulating Ultrasound Systems
Jensen, J. A. 1997 In : Medical & Biological Engineering & Computing. 34, sup. 1, p. 351-353
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Multi-processor system for real-time flow estimation in medical ultrasound imaging
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Real-Time Blood Flow Estimation Using a Recursive Least-Squares Lattice Filter
Research output: Research - peer-review › Article in proceedings – Annual report year: 1997

Estimation of blood velocities using ultrasound: A Signal Processing Approach
Research output: Research › Doctoral thesis – Annual report year: 1996

Estimation of the blood velocity spectrum using a recursive lattice filter
Research output: Research - peer-review › Article in proceedings – Annual report year: 1996

Multi-processor system for real-time deconvolution and flow estimation in medical ultrasound
Simulating arbitrary-geometry ultrasound transducers using triangles
Research output: Research - peer-review › Article in proceedings – Annual report year: 1996

Ultrasound fields from triangular apertures
Research output: Research - peer-review › Journal article – Annual report year: 1996

An Analysis of Pulsed Wave Ultrasound Systems for Blood Velocity Estimation
Research output: Research - peer-review › Journal article – Annual report year: 1995

Neural network for sonogram gap filling
Research output: Research - peer-review › Article in proceedings – Annual report year: 1995

Artifacts in blood velocity estimation using ultrasound and cross-correlation
Research output: Research - peer-review › Journal article – Annual report year: 1994

Estimation of in-vivo pulses in medical ultrasound
Research output: Research - peer-review › Journal article – Annual report year: 1994

Nonparametric estimation of ultrasound pulses
Research output: Research - peer-review › Journal article – Annual report year: 1994

Two-dimensional random arrays for real time volumetric imaging
Research output: Research - peer-review › Journal article – Annual report year: 1994

Deconvolution of In Vivo Ultrasound B-Mode Images
Research output: Research - peer-review › Journal article – Annual report year: 1993

Implementation of ultrasound time-domain cross-correlation blood velocity estimators
Research output: Research - peer-review › Journal article – Annual report year: 1993

Range/velocity limitations for time-domain blood velocity estimation
Research output: Research - peer-review › Journal article – Annual report year: 1993

Stationary echo canceling in velocity estimation by time-domain cross-correlation
Research output: Research - peer-review › Journal article – Annual report year: 1993

Ultrasound fields in an attenuating medium
Calculation of pressure fields from arbitrarily shaped, apodized, and excited ultrasound transducers
Research output: Research - peer-review › Journal article – Annual report year: 1992

Deconvolution of ultrasound images
Research output: Research - peer-review › Journal article – Annual report year: 1992

Two-dimensional deconvolution of ultrasound images
Research output: Research › Ph.D. thesis – Annual report year: 1992

A model for the propagation and scattering of ultrasound in tissue
Research output: Research - peer-review › Journal article – Annual report year: 1991

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Research output: Research - peer-review › Article in proceedings – Annual report year: 1991

Sampling system for in vivo ultrasound images
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Research output: Research › Ph.D. thesis – Annual report year: 1988

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Research output: Research - peer-review › Journal article – Annual report year: 1987

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A New Principle for a High Efficiency Power Audio Amplifier for Use with a Digital Preamplifier
Research output: Research - peer-review › Article in proceedings – Annual report year: 1986

A New principle for an all digital preamplifier and equalizer
Research output: Research - peer-review › Article in proceedings – Annual report year: 1986

Long-Term Cycling of the Magnesium Hydrogen System
Research output: Research - peer-review › Journal article – Annual report year: 1984