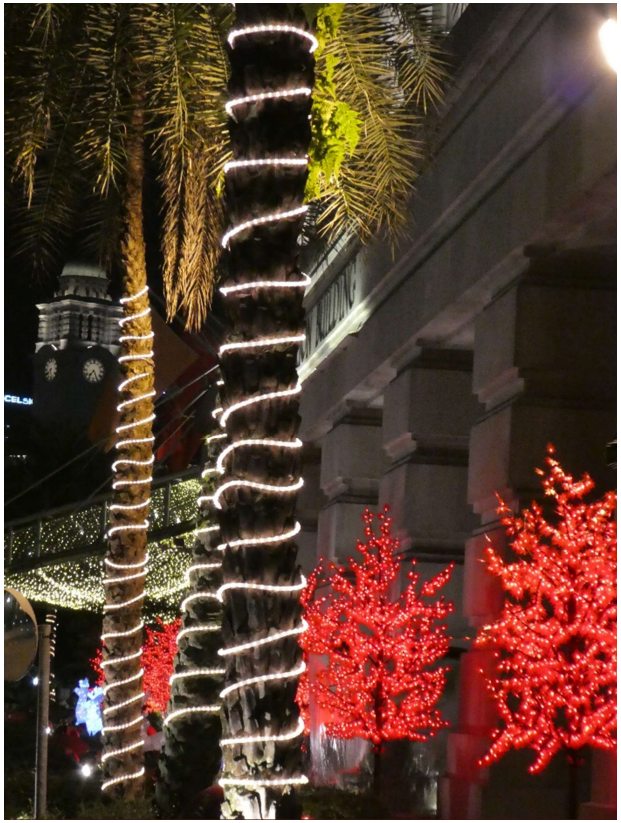
MST Review Academic Year 2019/20



Alexander W. Koch

Institute for Measurement Systems and Sensor Technology (MST)
Technical University of Munich (TUM)

Theresienstraße 90, 80333 Munich
www.mst.ei.tum.de

Team

Koch, Alexander W., Prof. Dr.-Ing. habil. Dr. h.c., Ordinarius
Schneider, Friedrich, Prof. Dr.-Ing., Extraordinarius (i.R.)
Schrüfer, Elmar, Prof. Dr. rer. nat. Dr. h.c. mult., Emeritus

Jakobi, Martin, Dr.-Ing., Academic Director
Werthschulte, Kay, Dr.-Ing., Lecturer
Yetisen, Ali Kemal, Dr., Humboldt Scholarship Awardee (until 29 Feb 2020)

Bierbaum, Rainer
von Grafenstein, Rita
Obermaier, Bernhard
Poplawski, Zbigniew

Baier, Valentin, M.Sc. *)
Bian, Qiang, M.Eng.
Dong, Jie, M.Sc.
Dong, Xingchen, M.Eng.
Dutz, Franz Josef, M.Sc. *)
Eble, Daniel, M.Sc.
Fink, Maximilian, M.Sc. (since 01 April 2020)
Grusche, Sascha, Dr.Phil.
Haider, Arsalan, M.Eng. *) (since 21 January 2020)
Hoffmann, Marcel, M.Sc.
Kienitz, Sascha, M.Sc. *)
Kienle, Patrick, M.Sc.
Knappe, Christoph, M.Eng.
Köhler, Michael, M.Sc.
Kurz, Wolfgang, M.Sc. (since 01 March 2020)
Lindner, Markus, M.Sc. *)
Pöller, Franziska, M.Sc.
Rieger, Florian, M.Sc. *)
Smetanina, Evgeniya, Dr.
Wang, Kun, M.Eng.

*) External cooperation

Teaching and Research in Academic Year 2019/20

Teaching Courses

- Advanced Laboratory Training Course Optomechatronical Measurement Systems
- Basic Laboratory Course Electrical Engineering
- Electrical Measurement of Environmental Quantities
- Electrical Measurement Technology for Computer Scientists
- Electromagnetic Sensors and Measurement Systems Laboratory: Experiment Computer-Generated Holography
- Laboratory Course Measurement and Sensor Technology (teaching profession)
- Measurement Systems and Sensor Technology (MST)
- Measurement Systems and Sensor Technology, TUM Asia, Singapore
- Measurement Systems and Sensor Technology for Mathematicians
- Measurement Systems and Sensor Technology in Mechanical Engineering
- Measurement and Sensor Technology (teaching profession)
- Non-contact Techniques for Material Testing, Athens Course
- Optomechatronical Measurement Systems, TUM Asia, Singapore
- Optomechatronical Measurement Systems (OMS)
- Photonic Measurement Systems (PM)
- Space Electronics for Sensor Systems

Bachelor Theses

Akgül, Markus: Entwicklung und Charakterisierung eines auf der Lasertriangulation basierenden Abstandssensors

Aksu, Cagatayhan: Evaluation of Single-Point Temperature Calibration of Fibre Bragg Temperature Sensors

Amplatz, Diego: Entwicklung einer photoakustischen Messzelle mit differentieller optischer Schalldetektion zur Bestimmung der CO2-Konzentration in Luft

Balchidis, Leonidas: Anwendung der digitalen Bildkorrelation in der Lasertriangulation

Batarilo, Lorena: Entwicklung eines Lasertriangulationsaufbaus zur Kompensation thermischer und mechanischer Fehlereinflüsse

Belokovskiy, Mai: Analyse von digitalen Bildkorrelationsmethoden zur Laserpunkterfassung in der Lasertriangulation

Chua, Lewis: Background Intensity Separation from Fringe Images Using Deep Learning

Colicchia, Ennio: Entwicklung und Auswertung einer kontinuierlichen Backgroundkorrektur für ein statisches FTIR-Spektrometer

Dellinger, Ludwig: Analyse thermischer Ausdehnungen an einem Lasertriangulationssystem

Genzinger, Tobias: Entwicklung eines Verfahrens zur Kompensation von Fehlern bei der Abstandsmessung mit Lasertriangulation

Grödl, Daniel: Analyse eines Kantenfilter-Messsystems für die Automatisierung des Herstellungsprozesses

Huiting, Chen: Development of a Sensor Head for Depolarization-Based Roughness Measurement

Kanzler, Julia: Entwicklung einer Versuchskammer auf Basis von Low-Cost-Komponenten

Karl, Sebastian: Automated Processing of IMU Data from a LiDAR System.

Kiesselbach, Clara: Optimierung und Evaluierung eines statischen FTIR-Spektrometers zur Fluidmessung mit hohen Messraten

Köber, Valentin: Optimierung von strukturierten Messoberflächen in der Lasertriangulation

Li, Zhendong: Line-scan hyperspectral imaging microscopy with structured illumination

Mujanovic, Nedim: Theoretische Betrachtung des Einflusses von Neigung und Oberflächeneigenschaften auf die Abstandsmessung mittels Lasertriangulation

Oberrauch, Thomas: Selection and Evaluation of a Satellite-Based Communication System for the Usage on CubeSats

Patriarca, Daniel: Optimierung dynamischer Eigenschaften eines gyrostabilisierten MEMS Neigungssensors durch gezielte Erkennung typischer Bewegungsprofile

Pfohl, Jakob: Implementierung der Auswertesoftware eines Lasertriangulationssystems auf einem Einplatinencomputer

Rasyid Bin Zainudin, Amirul: Sampling phase reconstruction in off-axis digital holographic microscopy

Röhrer, Franz: Analyse des Einflusses thermischer Schwankungen auf die Distanzmessung mittels Lasertriangulation

Sarusic, Antonio: Anwendung der Reaction Diffusion, Power Spectrum Centroid-Methode und Steger-Methode zur Laserpunkterfassung

Singh, Amritpal: Analyse erweiterter Methoden und unterschiedlicher Rauscheinflüsse auf die Laserpunkterfassung

Smajli, Fatbardh: Kamerakalibrierung in der Lasertriangulation

Stemplinger, Anselm: Simulation und Aufbau eines membranlosen optischen Mikrophons basierend auf einem Michelson-Interferometer

Stößer, Simon: Microfluidic Contact Lenses

Tan, Wee Meng: Multivariate analysis of multidimensional datasets acquired by hyperspectral imaging microscopy

Tian, Heng: Deep learning for hyperspectral microscopy images (HSI) segmentation of two-dimensional materials

Vauth, Bastian: Entwicklung eines kompakten statischen FTIR-Spektrometers zur Fluidanalyse

Walch, Christian: Konzeptionierung und Evaluierung einer statischen Druckkammer zur Justierung eines faseroptischen Drucksensors

Wang, Congyan: Smartphone Application for the Analysis of Colorimetric Tests

Advanced Seminars

Erhart, Michael: Real-Time Operating Systems for Satellite Instruments

Gerg, Peter: Marktforschung im Bereich der Distanzmessung

Grill, Philip: Stand der Technik in der Entfernungsmessung mittels Lasertriangulation und optischer Laufzeitverfahren

Knoll Sebastian: Kalibriermethoden für statische Fourier-Transformations-Spektrometer

Saurer Matthias: State of the Art der Rauheitsmessung

Stenger, Anna-Lisa: Messmethoden und Datenanalyseverfahren in der Photoakustik

Project Laboratory Course Measurement Systems

Egenhofer, Ulrich: Praktischer Aufbau einer wissenschaftlichen Kamera mit einem Raspberry Pi

Naßl, Stefan: Konzeptprüfung eines statischen Spektrometeraufbaus mit Konkavspiegel

Oberrauch, Thomas: Entwicklung eines Mess- und Funksystems zum Flug auf einem Testballon - Globalstar Balloon PCB

Engineering Practice

Flügge, Aron: Aufbau eines Messsystems für die Beprobung von Sensoren mit Prüfgasen

Foltyn, Christoph: Untersuchung ob der im Handmessgerät integrierte Freifallsensor zur Detektion von Sturzschäden eingesetzt werden kann

Grödl, Daniel: Evaluierung eines Wellenlängen-Multiplexing-Konzepts zur Detektion von optischen Störeinflüssen an einem Kantenfiltermessgerät

Jacumet, Robert: Ableitung von Anforderungen an künftige Sensor Setups

Kirmayr, Johannes: Simulation der solaren Einstrahlung in eine Kreuzfahrtschiffskabine (Fraunhofer IBP)

Li, Zhendong: Resolution-enhanced hyperspectral imaging microscopy with structured illumination

Pfeiffer, Christian: Sonnensensor für CubeSat-Anwendungen

Prado, Esteban: Build Verification Tests for Edge Filtering Measuring Devices by Electrically Imitation of Optical Components

Schnabel, Nick: Teststandentwicklung sowie Korrelationsanalysen verschiedener Druckerparameter (Canon Production Printing/OCE)

Tian, Heng: Acquire and understand the multidimensional datasets by hyper-spectral imaging microscopy

Treutinger, Tim: Development of a Payload Adapter Board for a High Altitude Balloon Mission

Waffler, Dominik: Test Equipment Measurement with iPMA

Research Practice

Botzner, Andreas: Nanosecond Laser-Pulser Circuit for LiDAR Applications

Eadie, Samuel: Development of SSL in an Embedded Web Server and Design of an Automatic Code Generation Pipeline for Control Systems

Höger, Johann: Weiterentwicklung eines membranlosen optischen Mikrofons unter Verwendung von Low-Cost-Komponenten

Kapfer, Fabian: Prototypentwicklung eines autonomen Hubwagens für den Boden-Boden-Transport von Paletten

Knoll, Sebastian: Auswahl von Leuchtmitteln für eine Kalibrierlampe

Lardschneider, Andrea: Analyse und Kompensation des Messsignals eines membranlosen optischen Mikrofons

Lederle, Matthias: Kalibrierungsoptimierung für ein statisches FTIR-Spektrometer

Lochner, Johannes: Weiterentwicklung eines Computer Controlled Vehicle Systems

Müller, Michael: Verbesserung der spektralen Auflösung eines statischen Einzel-spiegel-Spektrometers durch Verwendung eines Stufenspiegels

Stenger, Anna Lisa: Entwicklung von Elektronik für die Integration von RTK-Korrekturdaten in ein hoch präzises GNSS-Navigationssystem zur Verwendung in einer fliegenden Messplattform

Tran, Bach: Elektrooptische Wellenfrontmanipulation gepulster Laserstrahlung für die Mikroskopie

Walser, Robert: Development of an Automated Electrooptic Serial Test Solution for MEMS Mirrors

Wünsche, Sophia: Analysis and Identification of the Dynamics of MEMS based Laser Beam Deflections

Interdisciplinary Project for Computer Scientists

Batzner, Kilian Thomas: Fortgeschrittene Deep Learning Methoden für die effiziente Datennutzung von Sensormessungen einer taktilen Haut

Drobnoi, Viktor: Automatic Marker Detection and Point Cloud Registration of Multi LiDAR Data Stream with Global ICP Refinement

Hayirci, Zehra: Road Curb Detection Using 3D Lidar Scanlines Based on Tangent Calculation for Driveable Area Visualization

Junge, Robert: Clustering and Object Classification in Point Clouds I

Kiani, Arash: Processing and Visualization of LiDAR Data in VR

Liao, Hsuan-Cheng: Clustering and Object Classification in Point Clouds II

Solonets, Sergei: Automatic Marker Detection and Point Cloud Registration of Multi LiDAR Data Stream with Global ICP Refinement

Master Theses

Berndmaier, Christian: Development of an Internet of Things Solution for Detection and Monitoring of Parking Spots using LiDAR Point Clouds

Evangelisti, Giulio: Nonlinear Oscillations of a Laser Beam Deflection Unit with Multiple Degrees of Freedom

Fink, Maximilian: Readout and Performance Characterization of Silicon Photomultipliers for Time of Flight LiDAR

Heine, Simon: Movement Detection in 3D-LiDAR Data for Dynamic Object Tracking in Security Critical Applications

Hirber, Andreas: Erweiterung eines faseroptischen Messgeräts zu einem intelligenten IIoT-Sensor im Anwendungsbereich Windkraft

Hohenegger, Michael: Konzept eines Time-Of-Flight basierten Sicherheitssensors für die Lasermaterialbearbeitung

Jiang, Zhutong: Deep-learning-enabled rapid atomic layer mapping of two-dimensional materials

Lippert, Jannick: Scene Recognition for Autonomous Driving in Urban Environments Based on LiDAR Pointcloud Data

Meyer, Fabian: Charakterisierung eines kaskadierten Hall-Chip-Sensors zur Wegmessung in Nutzfahrzeugen

Nouri, Tarek: Analyse des Einflusses von strukturierten Oberflächen auf die Laserpunkterfassung

Schermer, Maximilian: Accurate Dynamic Measurement and Failure Detection of a Highly Dynamical Deflection Unit for Laser Beams

Solaz Esteban: Scalability and Optimization of a Fiber Optic Measurement Production

Sperr, Maximilian: Implementation and Partitioning of a Tracking Control System for MEMS Scanner on FPGA & RPU

Tran, Bach: Untersuchung einer optischen Freiraumübertragung von Bewegungen zur Gestenrekonstruktion

Zeng, Yanglu: 3D mapping with directional LiDAR based on LiDAR odometry

Doctorates

Graf, Moritz, Dr.-Ing.: (Exam on 25.10.19) Faseroptische Sensorik zur Schadensdetektion in Kabelgeflechten
1. Examiner: Prof. Alexander W. Koch
2. Examiner: Prof. Klaus Drechsler

Wang, Shengjia, Dr.-Ing.: (Exam on 20.01.20) Dual Transverse Electro-Optic Modulator in Optical Interferometric Systems
1. Examiner: Prof. Alexander W. Koch
2. Examiner: Prof. Félix Salazar Bloise, Universidad Politécnica de Madrid, Spanien

Special Events

- In October 2019 Björn Stoffers, co-founder of the spin-off company Orbital Oracle Technologies GmbH, won the “Best Pitch award of the 3rd StartUp Night!” for aerospace held by the Federal Ministry for Economic Affairs and Energy (BMWi)
- From 04-15 November 2019 Prof. Koch presented the lecture Optomechatronical Measurement Systems at the German Institute of Science and Technology in cooperation with the Nanyang Technological University, Singapore
- In November 2019 the spin-off company Blickfeld GmbH has been awarded the price "The Spark – Der deutsche Digitalpreis 2019", awarded from Handelsblatt and McKinsey
- From 11 to 22 May 2020 Prof. Koch presented the lecture and the tutorial lecture “Measurement Systems and Sensor Technology” in a digital format for the TUM Asia Master Program “Green Electronics” at Singapore Institute of Technology, Singapore

Funding and Cooperation

- Since 1999 scientific cooperation with the Max Planck Institute for Plasma Physics (IPP), Garching, in the field of surface diagnostics
- Since 2009 cooperation with Klüber Lubrication, Munich, in the field of optical measurement technology
- Since 2012 cooperation with fos4X GmbH, Munich, in the field of fiber optical measurement technology
- Funding of the DFG research project "In-situ strain measurement during the solidification and the cooling down of aluminium alloys by means of regenerated Fiber Bragg gratings" in cooperation with Professor Roths (University of Applied

Sciences Munich) and Professor Volk (TUM - Department of Mechanical Engineering) in the period 01.01.2019 - 31.03.2021

- Funding of the project "Condition monitoring systems for wind energy converters using rotor-blade load measurement data (CondWind)" by the Federal Ministry of Education and Research (BMBF) within the framework of the notice on the funding of the cooperation between science and technology (WTZ) with the Palestinian National Ministry, in cooperation with Prof. Hala El-Khozondar and fos4X GmbH in the period 01.02.2017-31.12.2019
- Funding of the project "Development of a broadband stationary Fourier-transform infrared spectrometer for the near and middle infrared range with high measuring rates" by the Federal Ministry of Economy and Energy (BMWi) due to a decision of the German Federal Parliament in the program "Central Innovation Program for SMEs (ZIM)" in cooperation with Comline Elektronik Elektrotechnik GmbH in the period 01.02.2017-15.12.2020
- Since 2017 cooperation with Blickfeld GmbH, Munich, in the field of fiber optical measurement technology
- Funding of the project "Laser measuring system for the determination of distance, parallelism, and tilting" by the Federal Ministry of Economy and Energy (BMWi) due to a decision of the German Federal Parliament in the program "Central Innovation Program for SMEs (ZIM)" in cooperation with Blau Optoelektronik GmbH in the period 13.03.2017-31.12.2019
- Funding of the project "Microfluidic Contact Lens Biosensors" within the program "Humboldt Research Fellowships for Postdoctoral Researchers" of the Alexander von Humboldt Foundation for Dr. Ali Kemal YETISEN, 01.03.2018-29.02.2020, in cooperation with Prof. Dr. Martin Elsner, Chair of Analytical Chemistry and Water Chemistry, Department of Chemistry, TUM
- Funding of the project "EXIST Transfer of Research: APICBEAM" within the program „Business Start-ups from Science" with funds of the Federal Ministry for Economic Affairs and Energy (BMWi), as well as funds of the European Social Fund for Germany (ESF) in the period 01.09.2019-31.12.2020 for Daniel Eble, Dr. Sascha Grusche, Christoph Knappe, and Dr. Evgeniya Smetanina
- Funding of the project "iAir – Lab-on-Chip VOC sensor technology" by the German Federal Environmental Foundation (DBU) in cooperation with BioChip Systems GmbH in the period 01.10.2019-16.10.2020
- Funding of the project "Development of a high-performance short-range LiDAR system based on multi-laser technology for autonomous vehicles" by the Federal Ministry of Economy and Energy (BMWi) due to a decision of the German Federal Parliament in the program "Central Innovation Program for SMEs (ZIM)" in cooperation with Blickfeld GmbH in the period 01.02.2020-14.02.2022
- Funding of the scholarships of Mr. Jie Dong (01.10.17-30.09.21), Mr. Xingchen Dong (01.10.17-30.09.21), Mr. Kun Wang (01.10.18-30.09.22), Dr. Yubo Huang (13.02.19-09.02.20), Prof. Guoqing Gu (01.12.19-30.11.20), and Qiang Bian (01.10.19-30.09.23) in the field of Optical Metrology, by the Chinese Ministry of Education under its funding organization China Scholarship Council (CSC)

Guests

Gu, Guoqing, Prof., Yancheng Institute of Technology, China, Visiting Scholar, 01.12.19 - 30.11.20

Huang, Yubo, Dr., Scientific Guest, Sichuan University, China, 13.02.19-09.02.20

Publications, Patents, and Conferences

Dong, J.; Wang, S.; Yetisen, A.K.; Dong, X.; Pöller, F.; Ong, N.; Jakobi, M.; Liu, Z.; Salazar Bloise, F.; Koch, A.W.: Shear-unlimited common-path speckle interferometer. Optics Letters (45/6), 2020

Dong, J.; Yetisen, A.K.; Dong, X.; Pöller, F.; Jakobi, M.; Liu, Z.; Salazar Bloise, F.; Koch, A.W.:: Low-pass filtering compensation in common-path digital holographic microscopy. Applied Physics Letters 117 (121105), 2020

Dong, X.; Köhler, M.H.; Jakobi, M.; Koch, A.W.: Hyperspectral imaging microscopy for thickness measurement and surface characterization of layered MoS2. SPIE Optical Measurement Systems for Industrial Inspection XI, 2019

Dong, X.; Köhler, M.H.; Wang, K.; Jakobi, M.; Koch, A.W.: Mapping the optical dielectric response of isolated monolayer MoS2 by push-broom microspectroscopy. Unconventional Optical Imaging II, 2020

Dong, X.; Li, Z.; Dong, J.; Wang, K.; Köhler, M.H.; Jakobi, M.; Koch, A.W.: Line-scan hyperspectral imaging microscopy with structured illumination. SPIE Optical Engineering + Applications, Unconventional Imaging and Adaptive Optics 2020

Dong, X.; Yetisen, A.K.; Tian, H.; Dong, J.; Köhler, M.H.; Jakobi, M.; Koch, A.W.: Analyses of hyperspectral imaging microscopy data sets of semiconducting 2D materials. Applied Physics Express 13 (052008), 2020

Dong, X.; Yetisen, A.K.; Tian, H.; Güler, I.; Stier, A. V.; Li, Z.; Köhler, M.H.; Dong, J.; Jakobi, M.; Finley, J. J.; Koch, A.W.: Line-Scan Hyperspectral Imaging Microscopy with Linear Unmixing for Automated Two-Dimensional Crystals Identification. ACS Photonics IF 7.143, 2020

Dong, X.: Hyperspektrales Abbildungsmikroskopie-Linienscanverfahren zur schnellen, großflächigen Dickenabbildung von zweidimensionalen Materialien. German patent application, 2020

Dutz, F.J.; Boje, S.; Orth, U.; Koch, A.W.; Roths, J.: High-temperature profile monitoring in gas turbine exhaust-gas diffusors with multipoint fibre-optic sensor arrays. International Conference on Gas Turbine Instrumentation GTI 2019

Dutz, F.J.; Boje, S.; Orth, U.; Koch, A.W.; Roths, J.: High-Temperature Profile Monitoring in Gas Turbine Exhaust-Gas Diffusors with Six-Point Fiber-Optic Sensor Array. International Journal of Turbomachinery, Propulsion and Power (5/4), 2020

Dutz, F.J.; Heinrich, A.; Bank, R.; Koch, A.W.; Roths, J.: Fiber-Optic Multipoint Sensor System with Low Drift for the Long-Term Monitoring of High-Temperature Distributions in Chemical Reactors. Sensors 19 (24/5476), 2019

El-Khozondar, H.J.; Yen, J.T.W.; Koch, A.W.: Simulating the performance and output measurements of modeled Photovoltaic(PV) Inverter. IEEE 7th Palestinian International Conference on Electrical and Computer Engineering (PICECE), 2019

El-Khozondar, H.J.; Yong, L.J.; Koch, A.W.: Recapitulation and comparative study for Photovoltaic Maximum Power Point Tracking techniques in particular sensor quality. IEEE 7th Palestinian International Conference on Electrical and Computer Engineering (PICECE), 2019

El-Khozondar, H.J.; Zainuddin, S.Z.B.; Koch, A.W.: Switching mechanism for Off-Grid Hybrid Power System (Photovoltaic-Wind) with storage battery. IEEE 7th Palestinian International Conference on Electrical and Computer Engineering (PICECE), 2019

Graf, M.A.: Faseroptische Sensorik zur Schadensdetektion in Kabelgeflechten. Shaker Verlag, 2020

Grusche, S.; Koch, A.W.; Jakobi, M.; Knappe, C.; Eble, D.; Smetanina, E.: Forschung auf dem Gebiet der spektral kodierten Videoprojektion am MST der TUM. Annual Magazine Engineering Sciences Germany 2019/20 (Measurement and Sensor Technology, Institute for Scientific Publications), 2019

Heilmeier, F.; Koos, R.; Hornberger, P.; Hiller, J.; Weraneck, K.; Jakobi, M.; Koch, A.W.; Volk, W.: Calibration of cast-in fibre Bragg gratings for internal strain measurements in cast aluminium by using neutron diffraction. Measurement 163 (107939), 2020

Hoffmann, M.; Lardschneider A.; Saurer M.; Stemplinger A.: Vorrichtung zur interferometrischen Auswertung photoakustischer Signale ohne bewegliche Komponenten. German patent application, 2020

Jiang, N.; Yetisen, A.K.; Linhart, N.; Flisikowski, K.; Dong, J.; Dong, X.; Butt, H.; Jakobi, M.; Schnieke, A.; Koch, A.W.: Fluorescent Dermal Tattoo Sensors for Electrolyte Analysis. Sensors and Actuators B Chemical Volume 320 (128378), 2020

Kienitz, S.; Kreft, S.; Schmid, M.; Staats, M.; Koch, A.W.: Miniature Airworthy Fiber-Optic Pressure Sensor for Measuring Static Pressure and Acoustics. Aerospace Europe Conference 2020

Kienle, P.; Batarilo, L.; Akgül, M.; Köhler, M.H.; Wang, K.; Jakobi, M.; Koch, A.K.:: Optical Setup for Error Compensation in a Laser Triangulation System. Sensors 20 17 (4949), 2020

Kienle, P.; Jakobi, M.; Koch, A.W. et al.: System zur Streckenbestimmung mittels Triangulation von Lichtstrahlen. German patent application, 2020

Kienle, P.; Köhler, M.H.; Wang, K.; Jakobi, M.; Koch, A.W.: Increasing the sensitivity of laser triangulation systems using structured optical surfaces. SPIE Optical Engineering + Applications, 2020

Köhler, M.H.; Nguyen, T.; Kienle, P.; Dong, X.; Schardt, M.; Jakobi, M.; Koch, A.W.: Hyperspectral Imager for the Mid-Infrared Spectral Range Using a Single-Mirror Interferometer and a Windowing Method. OSA Continuum 2(11), 2019

Köhler, M.H.; Schardt, M.; Müller, M.; Kienle, P.; Wang, K.; Dong, X.; Giebeler, C.; Wiesent, B.R.; Koch, A.W.: Static Fourier transform mid-infrared spectrometer with increased spectral resolution using a stepped mirror. OSA Continuum 3.8, 2020

Köhler, M.H.; Vauth, B.C.; Kiesselbach, C.J.; Dong, X.; Wang,K.; Kienle, P.; Schardt, M.; Giebeler, C.; Wiesent, B.R.; Koch A.W.: Compact static Fourier transform spectrometer for time-resolved mid-infrared spectroscopy. Electro-optical and Infrared Systems, 2020

Kurz, W.; Yetisen, A.K.; Kaito, M.V.; Jakobi, M.; Elsner, M.; Koch, A.W.: UV-Sensitive Wearable Devices for Colorimetric Monitoring of UV Exposure. Advanced Optical Materials (1901969), 2020

Lindner, M.; Bernard, D.; Heilmeier, F.; Jakobi, M.; Volk, W.; Koch, A.W.; Roths, J.: The transition from purely elastic to viscoelastic behavior of silica optical fibers at high temperatures characterized using regenerated Bragg gratings. Optics Express 28 (5), 2020

Yetisen, A.K.; Jiang, N.; Castaneda Gonzalez, C.M.; Erenoglu, Z.I.; Dong, J.; Dong, X.; Stößer, S.; Brischwein, M.; Butt, H.; Cordeiro, M.F.; Jakobi, M.; Hayden, O.; Koch, A.W.: Scleral Lens Sensor for Ocular Electrolyte Analysis. Advanced Materials (1906762), 2019

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Munich, 20 October 2020