Conference Programme

Kleinheubacher Tagung 2025

23. – 25. September 2025

Miltenberg, Germany

U. R. S. I.
Landesausschuss in Deutschland e. V.

Picture source: Miltenberg - Extract from Topographia Hassiae, Matthias Merian, 1655

Welcome

On behalf of the U. R. S. I. Landesausschuss in Deutschland e. V. and the Programme Committee, it is my great pleasure and honour to welcome you to the Kleinheubacher Tagung 2025 in Miltenberg.

As usual, this conference will cover the whole spectrum of the different commissions A to K of the Union Radio-Scientifique Internationale (U. R. S. I.).

This year, the programme consists of 61 scientific presentations, 7 of which from young scientists (not older than 35 in the year of the conference) qualified for the Young Scientist Awards.

Additionally, there are three plenary presentations from Prof. Manfred Kaltenbacher (Graz University of Technology, Austria), Prof. Yvonne Späck-Leigsnering (Robert Bosch GmbH & Technische Universität Darmstadt, Germany), and from Dr. Ekkehard Peik (PTB, Germany) covering highly interesting state-of-the-art topics.

The boat tour on the Main river on Wednesday evening is the festive highlight of our conference, where as in previous years the Young Scientist Awards (YSA) will be presented. New this year is that three of the YSA recipients will be further selected for Karl-Jörg Langenberg Awards (sponsored by the Thomas-Weiland-Wissenschaftsstiftung and the U.R.S.I. Landesausschuss in Deutschland e.V.).

We warmly welcome you to Miltenberg for the Kleinheubacher Tagung 2025 and we are sure that this will be both a professionally and personally enriching conference.

Ulrich Jakobus
Conference Chair

Programme at a Glance

Tuesday, 23.09.2025		Wednesday, 24.09.2025		Thursday, 25.09.2025	
Old Townhall (Altes Rathaus) Bürgersaal	New Townhall (Neues Rathaus) Kleiner Saal	Old Townhall (Altes Rathaus) Bürgersaal	New Townhall (Neues Rathaus) Kleiner Saal	Old Townhall (Altes Rathaus) Bürgersaal	New Townhall (Neues Rathaus) Kleiner Saal
09:00 - 09:20 Welcome		09:00 - 10:20 YSA Session (4 x Talks)		09:00 - 10:20 Commission D (4 x Talks)	09:00 - 10:20 Commission F (4 x Talks)
09:20 - 10:20 Commission C (3 x Talks)					
10:20 - 10:50 Coffee Break		*10:20 - 10:50 Coffee Break*		*10:20 - 10:50 Coffee Break*	
10:50 - 11:30 Commission C (2 x Talks)		10:50 - 11:50 YSA Session (3 x Talks)		10:50 - 12:30 Commission A (5 x Talks)	
11:30 - 12:30 Plenary Talk Comm. B M. Kaltenbacher		*11:50 - 13:10 Lunch Break with Meeting of the YSA Reviewers*			
12:30 - 13:30 Lunch Break				*12:30 - 14:00 Lunch Break with Meeting of the U.R.S.I. Commission Chairs*	
13:30 - 15:30 Commission B (6 x Talks)	13:30 - 15:30 Commission C (6 x Talks)	13:10 - 14:10 Plenary Talk Comm. B Y. Späck-Leigsnering		14:00 - 15:00 Plenary Talk Comm. A E. Peik	
		14:10 - 15:30 Commission GHJ (4 x Talks)	14:30 - 15:30 Commission E (3 x Talks)	*15:00 - 16:00 Coffee Break*	
15:30 - 15:50 Coffee Break		*15:30 - 15:50 Coffee Break*			
15:50 - 17:30 Commission B (5 x Talks)	15:50 - 17:30 Commission K (5 x Talks)	15:50 - 16:50 Commission GHJ (3 x Talks)	15:50 - 17:30 Commission F (4 x Talks, first 40 min)	16:00 - 17:30 U.R.S.I. Member Meeting	
		18:00 - 20:00 Boat Tour on the Main River			
20:30 - 22:00 Guided Night Tour "Im Schein der Laterne"					

Program Committee

Ulrich Jakobus (Conference Chair)
Altair Engineering GmbH, Böblingen

Ralph Latteck (Technical Program Chair)
Leibnitz-Institut für Atmosphärenphysik, Kühlungsborn

Thomas Kleine-Ostmann (A: Electromagnetic Metrology)
Physikalisch-Technische Bundesanstalt, Braunschweig

Herbert De Gersem (B: Fields and Waves)
Technische Universität Darmstadt

André Buchau (C: Radio Communication Systems and Signal Processing)
Universität Stuttgart

Dirk Killat (D: Electronics and Photonics)
Brandenburgische Technische Universität Cottbus-Senftenberg

Frank Gronwald (E: Electromagnetic Environment and Interference)
Universität Siegen

Madhu Chandra (F: Wave Propagation and Remote Sensing)
Technische Universität Chemnitz

Ralph Latteck (G: Ionospheric Radio and Propagation)
Leibnitz-Institut für Atmosphärenphysik, Kühlungsborn

Christian Vocks (H: Waves in Plasmas)
Leibniz-Institut für Astrophysik, Potsdam

Alexander Kraus (J: Radio Astronomy)
Max-Planck-Institut für Radioastronomie, Bonn

Lars Ole Fichte (K: Electromagnetics in Biology and Medicine)
Helmut-Schmidt Universität, Hamburg

U. R. S. I. Landesausschuss in Deutschland e. V.

Ludger Klinkenbusch (President)
Christian-Albrechts-Universität zu Kiel

Wolfgang Mathis (Vice President)
Leibniz-Universität Hannover

Eckard Bogenfeld (Managing Director)
Deutsche Telekom AG, Darmstadt

General Information

Dates and Location

23. – 25. September 2025
Miltenberg, Germany
https://www.kh2025.de

Venues

Old Townhall (Altes Rathaus) Miltenberg
Hauptstr. 137, 63897 Miltenberg
(Talks in the "Bürgersaal")

New Townhall (Neues Rathaus) Miltenberg
Engelplatz 69, 63897 Miltenberg
(Talks in the "Kleiner Saal")

Registration

Online (preferably by 12.09.2025):
https://www.kh2025.de/registration.html

Old Townhall, Foyer

Monday, 22.09.2025:	18:00 – 19:30
Tuesday, 23.09.2025:	08:00 – 17:30
Wednesday, 24.09.2025:	08:30 – 17:30
Thursday, 25.09.2025:	08:30 – 16:15

Tourist Information Miltenberg

Tourismusgemeinschaft
Miltenberg-Bürgstadt-Kleinheubach:
Engelplatz 69, 63897 Miltenberg
Tel.: +49 9371 404119
Fax: +49 9371 9488944
https://www.miltenberg.info

Audiovisual Equipment

Each conference room is equipped with a laptop computer with Microsoft Windows, Microsoft Office 365 (including Powerpoint) and the Adobe Acrobat Reader. Presenters may not use their own laptop computers for the presentations. *Only the provided laptop computers can be used*.

Authors should well in time before the sessions (at the latest in the break before the session) upload their presentations to the laptop computers in the conference rooms via USB stick.

Social Programme

Guided Night Tour - Im Schein der Laterne

When: Tuesday, 23.09.2025, 20:30 – 22:00
Where: Old Townhall (Altes Rathaus)
Note: Please register when picking up the name badges at the onsite conference registration desk. No extra fee, the participation is included in the conference fee. Up to 25 guests can be accommodated (first-come first-served basis).

Boat Tour on the Main River

When: Wednesday, 24.09.2025, 18:00 – 20:00
Where: Reederei Henneberger, Mainanlage, 63897 Miltenberg
Note: Please indicate your attendance when registering for the conference. No extra fee, the participation is included in the conference fee.

U. R. S. I.-Events

Meeting of the U. R. S. I.-Commission Chairs

When: Thursday, 25.09.2025, 12:30 – 14:00
Where: Old Townhall (Altes Rathaus) - Meeting Room

Member Meeting of the U. R. S. I. Landesausschuss in der Bundesrepublik Deutschland e. V.

When: Thursday, 25.09.2025, 16:00 – 17:30
Where: Old Townhall (Altes Rathaus) - Bürgersaal
Note: Only U. R. S. I. Members are allowed to participate

Young Scientist Awards (YSA) Programme

As part of our continuing commitment to encouraging the next generation of early-stage researchers, we will offer up to 10 Young Scientist Awards (YSA), three of these YSA recipients will be further selected for Karl-Jörg Langenberg Awards (KJLA, Best Paper Award) sponsored by the Thomas-Weiland-Wissenschaftsstiftung and the U.R.S.I. Landesausschuss in Deutschland e.V. during the course of the conference.

The selection of YSA recipients was based upon an examination of the documents submitted. Besides originality and creativity, form and clarity of the presented work has been assessed. The YSA includes a certificate, a waiver of conference fees, and a prize money of € 250.

Two special YSA sessions will take place in the morning of Wednesday, September 24th, in the auditorium of the Old Townhall (the main conference venue). The best three presentations will receive a Karl-Jörg Langenberg Award (KJLA). In addition to a certificate, the KJLA winners will receive € 5 000 (1st place), € 4 000 (2nd place) and € 3 000 (3rd place) - in addition to the above-mentioned YSA prize money of € 250 (in case of same votes, the prize money will be shared).

All YSA and KJLA award winners will be honoured in a special ceremony during a joint boat tour on the Main river in the evening of September 24th.

Alexander Kraus
Chair of the YSA Committee

YSA Recipients

Markus Michael Theil (Kommission A)
Technical University of Applied Sciences Augsburg, Germany
Measurements of Rotationally Symmetric Antenna Arrays for Short-Range Communication

Jan-Magnus Christmann (Kommission B)
Technical University Darmstadt, Germany
Homogenized Harmonic Balance Finite Element Method for Nonlinear Eddy Current Simulations

Christian Fruth (Kommission B)
Technical University of Munich (TUM), Germany
Discretization of an Impedance Boundary Condition of Arbitrary Degree for Surface Integral Equations

Danijel Jukic (Kommission B)
Universität Rostock, Germany
A Broadband Stabilized Multilevel Fast Multipole Method Leveraging B-Splines

Maximilian Lübke (Kommission F)
Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany
ISAC in Dense Automotive Scenarios: Influence of Antenna Characteristics and Placement

Alexandre Becker Campos (Kommission F)
Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) & German Aerospace Center (DLR), Germany
A Snow Properties-Aware Deep Learning Framework for Large-Scale Estimation of Penetration Bias in TanDEM-X DEMs

Sadam Hussain Kazimi (Kommission F)
Chemnitz University of Technology & APTIV, Germany
Street Condition Classification Using Single and Dual Linearly-Polarized Automotive FMCW Radar

Prizegiving Ceremony for YSA and KJLA Winners

When: Wednesday, 24.09.2025, 18:00 – 20:00
Where: During the boat tour on the Main river (see details on page 7)

Invited Plenary Presentations

Manfred Kaltenbacher
(Graz University of Technology, Austria)
Hysteresis modelling and efficient finite element formulation for computational electromagnetics
Tuesday, 23.09.2025, 11:30 – 12:30
Old Townhall (Bürgersaal)

Yvonne Späck-Leigsnering
(Robert Bosch GmbH & Technische Universität Darmstadt, Germany)
Engineering EMC Excellence: Efficient Approaches to System Simulation
Wednesday, 24.09.2025, 13:10 – 14:10
Old Townhall (Bürgersaal)

Ekkehard Peik
(PTB, Germany)
Laser excitation of the thorium-229 nucleus - Towards a nuclear clock
Thursday, 25.09.2025, 14:00 – 15:00
Old Townhall (Bürgersaal)

Plenary Speakers

Manfred Kaltenbacher

Manfred Kaltenbacher received his Dipl.-Ing. in Electrical Engineering from the Technical University of Graz, Austria, in 1992, his Ph.D. in Technical Sciences from the Johannes Kepler University of Linz, Austria, in 1996, and his Habilitation from the Friedrich-Alexander University of Erlangen-Nuremberg, Germany, in 2004. In 2008, he was appointed full professor of Applied Mechatronics at the Alps-Adriatic University of Klagenfurt, Austria. In 2012, he moved to Vienna University of Technology, Austria, as Full Professor of Measurement and Actuator Technology, and in 2020, he became Head of the Institute of Fundamentals and Theory of Electrical Engineering at Graz University of Technology, Austria. His research interests include advanced finite element (FE) methods for multiphysics (magneto-mechanics, vibro- and aero-acoustics, and piezoelectrics) and combined experimental and simulation-based methods for material parameter determination (magnetics, acoustics, piezoelectrics). Manfred Kaltenbacher is Editor-in-Chief of Acta Acustica, member of the Editorial Advisory Board of Acta Mechanica and Senior Editor of the Journal of Computational Acoustics. He is a member of the Austrian Academy of Sciences, the IEEE Society, the AIAA Society, the European Acoustics Association (EAA), the German Acoustical Society (DEGA), the Austrian Acoustical Association (AAA), the Austrian National Committee for Theoretical and Applied Mechanics, and a member of the Academic Assembly and the Board of Directors of CISM.

Yvonne Späck-Leigsnering

Yvonne Späck-Leigsnering heads the ME/EMC simulation team at Robert Bosch GmbH and is Chair of the Computational Electromagnetic Compatibility Group at Technical University (TU) Darmstadt, Germany. Her research interests encompass the modeling and simulation of multiphysical nonlinear problems in power and electrical engineering, with a particular focus on advanced simulation methods for electromagnetic compatibility. She received the M.Sc. and Ph.D. degrees in electrical engineering from TU Darmstadt in 2014 and 2019, respectively. From 2022 to 2025, she held an Athene Young Investigator Fellowship at TU Darmstadt. Späck-Leigsnering is a Werner-von-Siemens-Fellow and a recipient of the Fritz und Margot Faudi Foundation Award (2022).

Ekkehard Peik

Ekkehard Peik is head of the Department Time and Frequency at PTB, Germany's National Metrology Institute in Braunschweig. He studied physics in Göttingen and Munich, obtaining the Diploma (1988) and PhD degree (1993) for experiments on laser cooling of trapped ions and an optical frequency standard. After a postdoctoral fellowship at Ecole Normale Supérieure in Paris (1994-1996) he returned to Munich where he obtained the habilitation in 1999. He joined PTB in 2001 as scientific staff, became leader of the working group "Optical clocks with trapped ions" in 2003 and head of the Time and Frequency Department in 2007. The main topics of his research are optical clocks with trapped ions, the low-energy nuclear transition in Th-229 as a nuclear clock, and the use of clocks in tests of fundamental principles of physics. He has received the European Frequency and Time Award in 2018 and the I. I. Rabi Award of IEEE in 2021. He is PI on an ERC Synergy Grant on the Thorium Nuclear Clock, and Vice President for Frequency Control in the IEEE UFFC society.

09:00 – 09:20: Welcome

09:20 – 10:20: Commission C - Part 1
Radio Communication Systems and Signal Processing
Chair: André Buchau

09:20 – 09:40: KH2025-C-1-1
A. Probst, M. Neumaier, C. Hufgard, M. Wölfel, C. Schmitt, U. Bochtler (Aschaffenburg University of Applied Sciences, Germany et al.)
Network Planning a Digital TETRA-Simulcast-System

09:40 – 10:00: KH2025-C-1-2
A. Jahanbakhshi, S. H. Kazimi, M. Clemens, M. Stefer (University of Wuppertal, Germany et al.)
Performance Evaluation of 2D Sparse MIMO Array Configurations for Automotive Radar Applications

10:00 – 10:20: KH2025-C-1-3
P. P. Biswas, W. Pascher, S. Lindenmeier (Universität der Bundeswehr München, Germany)
Reproducible GNSS Testing on Semi-Virtual Measurement Platform

10:20 – 10:50: Coffee Break

10:50 – 11:30: Commission C - Part 2
Radio Communication Systems and Signal Processing
Chair: André Buchau

10:50 – 11:10: KH2025-C-2-1
C. Vieira (Hochschule Trier, Germany)
Evaluation of a Hybrid DSP-Machine-Learning Model: Steering-Model on Single-Target Scenarios

11:10 – 11:30: KH2025-C-2-2
D. Rau, G. R. Gutierrez, J. Götze, S. Palzer (Technische Universität Dortmund, Germany)
Embedded Humidity Monitoring using Adaptive Thresholds for Enhanced Respiratory Pattern Analysis

11:30 – 12:30: Plenary Talk
Chair: Herbert de Gersem
KH2025-P-1
M. Kaltenbacher
(Graz University of Technology, Austria)
Hysteresis modelling and efficient finite element formulation for computational electromagnetics

12:30 – 13:30: Lunch Break

13:30 – 15:30: Commission B - Part 1
Fields and Waves
Chair: Rolf Schuhmann

13:30 – 13:50: KH2025-B-1-1
E. Buchenau, A. Osipov, T. Jagdhuber (German Aerospace Center (DLR), Germany)
Radar Absorbers with Carbon Nanotubes

13:50 – 14:10: KH2025-B-1-2
L. D'Angelo, H. De Gersem (Technische Universität Darmstadt, Germany)
Substructured Reduced Magnetic Vector Potential Formulation for the Magnetic Simulation of High-Temperature Superconducting Coils

14:10 – 14:30: KH2025-B-1-3
J. A. Oladapo, S. B. Adrian, M. Eberspächer (University of Rostock & Technische Hochschule Würzburg-Schweinfurt, Germany)
Frequency-Dependent RCS Characterization of a CRLH Leaky-Wave Antenna Using Characteristic Mode Analysis

14:30 – 14:50: KH2025-B-1-4
C. Bergfried, J. Bundschuh, Y. Späck-Leigsnering, H. De Gersem (Technische Universität Darmstadt, Germany et al.)
Stochastic machine-slot models with randomly positioned and deformed round wires

14:50 – 15:10: KH2025-B-1-5
J. Steiner, R. Dyczij-Edlinger (Universität des Saarlandes, Germany)
Symmetrische Finite-Elemente-Diskretisierung lokaler absorbierender Randbedingungen beliebiger Ordnung für die skalare Helmholtzgleichung in 2D

15:10 – 15:30: KH2025-B-1-6
S. Sivakumar, Y. Dahan, Y. Brick, S. B. Adrian (Universität Rostock, Germany et al.)
On the Conditioning of 2D Generalized Integral Equation Boundary Element System Matrices

15:30 – 15:50: Coffee Break

15:50 – 17:30: Commission B - Part 2
Fields and Waves
Chair: Herbert de Gersem

15:50 – 16:10: KH2025-B-2-1
B. Mergl, S. B. Adrian (Universität Rostock, Germany et al.)
Investigation of a Kernel-Independent Strategy for the Computation of Singular Integrals in the Method of Moments on Hexahedral Elements

16:10 – 16:30: KH2025-B-2-2
S. H. Taheri, M. Y. Ali, A. Lalbakhsh (Macquarie University, Australia)
High Performance Microstrip Array Design by Machine Learning-Assisted Multi-Objective Optimization Approach

16:30 – 16:50: KH2025-B-2-3
J. M. Tetzner, S. B. Adrian (Universität Rostock, Germany et al.)
Investigation of the Nested Cross Approximation for the Construction of Directional HÂ²-Matrices

16:50 – 17:10: KH2025-B-2-4
R. Kalhöfer, Y. Dahan, A. Boag, L. Klinkenbusch, Y. Brick (Kiel University, Germany et al.)
Multipole-based Generalized Source Integral Equation for Fast Direct Method-of-Moment Solvers

17:10 – 17:30: KH2025-B-2-5
E. A. Attardo, C. Delgado, J. van Tonder, I. Zhabitskiy, E. Garcia, U. Jakobus (Altair Engineering GmbH, Germany et al.)
A High-Performance Multi-Core Hierarchical Preconditioner for Multiscale Electromagnetic Problems with the MLFMM

12:30 – 13:30: Lunch Break

13:30 – 15:30: Commission C - Part 3
Radio Communication Systems and Signal Processing
Chair: André Buchau

13:30 – 13:50: KH2025-C-3-1
D. Rau, M. Yahya, J. Götze, C. Schöbel, S. Dietz-Terjung (Technische Universität Dortmund, Germany et al.)
Adaptive Thresholds and Statistical Methods for Automatic Identifying Central and Mixed Apnea Sequences in Minimal-Contact Biomedical Signals

13:50 – 14:10: KH2025-C-3-2
M. Yahya, D. Rau, J. Götze (TU Dortmund University, Germany et al.)
Interpretable and Scalable Sleep Apnea Detection via Structured Kernel Learning in Gaussian Processes

14:10 – 14:30: KH2025-C-3-3
N. Taşpınar, M. Tekin (Erciyes University, Turkey)
Symbol Detection Using Cuckoo Search Algorithm in MIMO-VLC Systems

14:30 – 14:50: KH2025-C-3-4
N. Alchami, A. Czylwik, Y. C. Kara, B. Husain (University Duisburg-Essen, Germany)
Thinning-like Method for Beamforming with MEMS-Reflectarrays

14:50 – 15:10: KH2025-C-3-5
E. Ecik, W. John, J. Withöft, R. Brüning, J. Götze (TU Dortmund University, Germany et al.)
Systematische Bewertung von Entscheidungsbaum-identifizierten SI-konformen Signalformen durch Verwendung der Earth Mover's Distanz

15:10 – 15:30: KH2025-C-3-6
P. V. Modayil, E. Ecik, W. John, J. Withöft, N. G. Shoaee, R. Brüning, J. Götze (Technische Universität Dortmund, Germany et al.)
Calculating the Characteristic Parameters of Coupled Transmission Lines on PCB by an AI-based Hybrid Approach (RL/GA)

15:30 – 15:50: Coffee Break

15:50 – 17:30: Commission K
Electromagnetics in Biology and Medicine
Chairs: Lars Ole Fichte, Tony Richard Oliveira Almeida

15:50 – 16:10: KH2025-K-1-1
N. Haußmann, S. Stroka, M. Clemens (University of Wuppertal, Germany)
AI-Based Resolution Enhancement for Real-Time Dosimetry Simulations

16:10 – 16:30: KH2025-K-1-2
H. Raben, N. Arbeiter, H. Bathel, U. van Rienen (University of Rostock, Germany)
Design and numerical analysis of a novel electrostimulating lower jaw implant with dual-sided thin-film electrodes

16:30 – 16:50: KH2025-K-1-3
P. Respondek, S. B. Adrian (Universität Rostock, Germany)
Investigation of the Influence of the Quadrature Order on the Convergence Behavior for Direct and Indirect Boundary Element Formulations

16:50 – 17:10: KH2025-K-1-4
N. Arbeiter, J. Zimmermann, H. Bathel, V. L. Che, H. Raben, U. van Rienen (University of Rostock, Germany et al.)
Impedance-Based Characterisation of Electrostimulation Devices for Predictive Modelling

17:10 – 17:30: KH2025-K-1-5
L. O. Fichte, T. R. O. Almeida (Helmut-Schmidt-Universität, Germany et al.)
Felddosimetrie in einer universitäten Umgebung

09:00 – 10:20: YSA - Part 1
Young Scientist Awards
Chair: Alexander Kraus

09:00 – 09:20: KH2025-YSA-1-1
M. M. Theil (Technical University of Applied Sciences Augsburg, Germany)
Measurements of Rotationally Symmetric Antenna Arrays for Short-Range Communication

09:20 – 09:40: KH2025-YSA-1-2
J. Christmann, L. D'Angelo, H. De Gersem (Technical University Darmstadt, Germany)
Homogenized Harmonic Balance Finite Element Method for Nonlinear Eddy Current Simulations

09:40 – 10:00: KH2025-YSA-1-3
C. Fruth, T. F. Eibert (Technical University of Munich (TUM), Germany)
Discretization of an Impedance Boundary Condition of Arbitrary Degree for Surface Integral Equations

10:00 – 10:20: KH2025-YSA-1-4
D. Jukic, B. Hofmann, T. F. Eibert, S. B. Adrian (Universität Rostock, Germany et al.)
A Broadband Stabilized Multilevel Fast Multipole Method Leveraging B-Splines

10:20 – 10:50: Coffee Break

10:50 – 11:50: YSA - Part 2
Young Scientist Awards
Chair: Alexander Kraus

10:50 – 11:10: KH2025-YSA-2-1
M. Lübke, R. Weigel, N. Franchi (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany et al.)
ISAC in Dense Automotive Scenarios: Influence of Antenna Characteristics and Placement

11:10 – 11:30: KH2025-YSA-2-2
A. B. Campos, M. Braun, P. Rizzoli (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) & German Aerospace Center (DLR), Germany et al.)
A Snow Properties-Aware Deep Learning Framework for Large-Scale Estimation of Penetration Bias in TanDEM-X DEMs

11:30 – 11:50: KH2025-YSA-2-3
S. H. Kazimi, S. Sanka, D. Vollbracht, M. Chandra (Chemnitz University of Technology & APTIV, Germany)
Street Condition Classification Using Single and Dual Linearly-Polarized Automotive FMCW Radar

11:50 – 13:10: Lunch Break (with Meeting of the YSA Reviewers)

13:10 – 14:10: Plenary Talk
Chair: Herbert de Gersem
KH2025-P-2
Y. Späck-Leigsnering
(Robert Bosch GmbH & Technische Universität Darmstadt, Germany)
Engineering EMC Excellence: Efficient Approaches to System Simulation

14:10 – 15:30: Commissions GHJ - Part 1
Chairs: Ralph Latteck, Christian Vocks, Alexander Kraus

14:10 – 14:30: KH2025-GHJ-1-1
R. I. Vaishnav, C. Jacobi (Leipzig University, Germany)
Modulation of Thermospheric and Ionospheric States by Intense Geomagnetic Activity on May 10-11 2024

14:30 – 14:50: KH2025-GHJ-1-2
C. Jacobi, A. Kuchar, M. Ern, T. Renkwitz, R. Latteck, J. Chau (Leipzig University, Germany et al.)
Solar cycle influence on midlatitude mesosphere/lower thermosphere, Collm, 51.3N, 13.0E

14:50 – 15:10: KH2025-GHJ-1-3
N. Jakowski, M. M. Hoque, J. A. Cahuasquí, G. Nykiel (German Aerospace Center, Germany)
Ionospheric indices for characterizing ionospheric perturbations and warning users of trans-ionospheric radio systems

15:10 – 15:30: KH2025-GHJ-1-4
R. Latteck, T. Renkwitz (Institute of Atmospheric Physics (IAP), Germany)
Long-term variations of radar volume reflectivity of polar mesospheric summer echoes observed at Andøya

15:30 – 15:50: Coffee Break

15:50 – 16:50: Commissions GHJ - Part 2
Chairs: Ralph Latteck, Christian Vocks, Alexander Kraus

15:50 – 16:10: KH2025-GHJ-2-1
C. Vocks, C. Denker, H. Gan, J. Mitchell, A. Pietrow, F. Schuller, M. Verma, A. Warmuth (Leibniz-Institut für Astrophysik Potsdam, Germany)
*Energetic electrons in the solar corona observed with SKA AA**

16:10 – 16:30: KH2025-GHJ-2-2
A. Kraus, A. Jessner, G. I. Józsa, B. Winkel (Max-Planck-Institut für Radioastronomie, Germany)
Unintended Electromagnetic Radiation from low-Earth Orbit Satellites

16:30 – 16:50: KH2025-GHJ-2-3
A. Kraus, U. Bach, G. Pupillo, S. Righini (Max-Planck-Institut für Radioastronomie, Germany et al.)
Radar Observations of Near-Earth Objects with European Radio Telescopes

14:30 – 15:30: Commission E
Electromagnetic Environment and Interference
Chair: Frank Gronwald

14:30 – 14:50: KH2025-E-1-1
R. Geise, N. Mareev (HTWK University of Applied Science Leipzig & Technische Universität Braunschweig, Germany)
Highly Automated Application-Specific Compliance Testing in a Software Defined Radio Environment

14:50 – 15:10: KH2025-E-1-2
M. Tiemann, M. Olbrich, M. Kleinen, A. Grünwaldt, J. Bärenfänger (EMC Test NRW GmbH & University of Wuppertal, Germany)
Review and Comparative Analysis of Measurement Techniques for High-Frequency Shaft Currents in Electric Drives

15:10 – 15:30: KH2025-E-1-3
F. Gronwald (University of Siegen, Germany)
The Cloud Model as a Recent Advancement in Risk Analysis for Electromagnetic Compatibility

15:30 – 15:50: Coffee Break

15:50 – 17:30: Commission F - Part 1
Wave Propagation and Remote Sensing
Chairs: Patrick Tracksdorf, Jörg Steinert

15:50 – 16:30: KH2025-F-1-1
T. Otto (OHB System AG, Germany)
Applications of beamforming in spaceborne radar systems

16:30 – 16:50: KH2025-F-1-2
D. Knies, M. Peichl, S. Dill, M. Eberspächer, M. Engel (Technical University of Applied Sciences Würzburg-Schweinfurt (THWS) & German Aerospace Center (DLR), Germany)
Development of a 94 GHz FMCW radar used in a mechanically scanning imaging system for landing zone assessment of helicopters

16:50 – 17:10: KH2025-F-1-3
R. P. Joshi, A. Shekhar, A. Bellary, R. Hoppe (Altair Engineering GmbH, Germany et al.)
Passive Intelligent Reflective Surface for Enhancing Radio Coverage in Buildings

17:10 – 17:30: KH2025-F-1-4
S. Turso, R. Mohandas, C. Salzburg, T. Bertuch (Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany)
An X-band Sub-array with High Cross-polarization Discrimination for Weather Sensing

09:00 – 10:20: Commission D
Electronics and Photonics
Chairs: Dirk Killat, Wolfgang Mathis

09:00 – 09:20: KH2025-D-1-1
B. Ulmann (FOM University of Applied Sciences, Germany)
Reconfigurable Analog Computers

09:20 – 09:40: KH2025-D-1-2
N. Rumpeltin, T. Thomas, M. Rücker, M. Hawich, D. Lohmann, H. Blume (Leibniz Universität Hannover, Germany)
A Hardware/Operating System Co-Design Approach for Energy Optimization in Harsh Environments

09:40 – 10:00: KH2025-D-1-3
S. De, Y. Mandalawi, A. Venugopalan, J. Meier, R. Das, K. Baaske, T. Kleine-Ostmann, L. Zhou, T. Schneider (Technische Universität Braunschweig & Physikalisch-Technische Bundesanstalt Braunschweig, Germany et al.)
Experimental Study of Thermal Crosstalk Alleviation in Thermo-Optic Phase Shifters

10:00 – 10:20: KH2025-D-1-4
S. S. Venkatesha, D. Killat (Brandenburg University of Technology, Germany)
Design of a fully differential track-and-hold amplifier

10:20 – 10:50: Coffee Break

10:50 – 12:30: Commission A
Electromagnetic Metrology
Chair: Thomas Kleine Ostmann

10:50 – 11:10: KH2025-A-1-1
O. Abed, N. Meyne, T. Kleine-Ostmann (Physikalisch Technische Bundesanstalt, Germany)
Development and characterization of a versatile phase noise reference with traceability to national standards

11:10 – 11:30: KH2025-A-1-2
M. D. Al-Dabbagh, D. Ulm, T. Kleine-Ostmann (Physikalisch-Technische Bundesanstalt (PTB), Germany)
Characterization of Receiver Non-Linearity in Vector Network Analyzer Measurements

11:30 – 11:50: KH2025-A-1-3
G. N. Phung, M. Stiemer, K. Baaske, A. Lamkowski, T. Kleine-Ostmann (Physikalisch-Technische Bundesanstalt, Germany et al.)
Specific Absorption Rate Calculations for the Exposure of Cell Cultures to Electromagnetic Fields at 5G Frequencies

11:50 – 12:10: KH2025-A-1-4
D. Unruh, N. Lison, T. F. Eibert (Technical University of Munich, Germany)
Investigation of Flight Trajectories for Optimizing UAV-Based Near-Field Antenna Measurements

12:10 – 12:30: KH2025-A-1-5
J. Gundlach, D. Ulm, T. Kleine-Ostmann (Physikalisch-Technische Bundesanstalt, Germany)
Kompensation der variablen Dämpfung von RFoF-Strecken für UAV-basierte Nahfeld-Antennenmessungen

12:30 – 14:00: Lunch Break with Meeting of the U. R. S. I.Commmission Chairs

14:00 – 15:00: Plenary Talk

Chair: Thomas Kleine-Ostmann

KH2025-P-3

E. Peik

(PTB, Germany)

Laser excitation of the thorium-229 nucleus - Towards a nuclear clock

15:00 – 16:00: Coffee Break

16:00 – 17:30: U. R. S. I. Member Meeting

09:00 – 10:20: Commission F - Part 2
Wave Propagation and Remote Sensing
Chairs: Patrick Tracksdorf, Tobias Otto

09:00 – 09:20: KH2025-F-2-1
J. Steinert (DWD, Germany)
Weather radar measurements as a basis for the differentiation of hydrometeors

09:20 – 09:40: KH2025-F-2-2
P. Tracksdorf, A. Vyas, R. Zichner, M. Chandra (Deutscher Wetterdienst & TU Chemnitz, Germany)
Separating Weather Radar Echo-Power into Precipitation and Clutter in Time-Domain

09:40 – 10:00: KH2025-F-2-3
E. Terveer (FH Münster, Germany)
Design And Simulation Of A Dielectric Cavity Resonator For Microwave Plasmalysis

10:00 – 10:20: KH2025-F-2-4
A. Vyas, F. Gekat, P. Tracksdorf, R. Zichner, M. Chandra (Chemnitz University of Technology, Germany et al.)
Polarisation and Frequency Scaling of Back-Scattering and Propagation Parameters between C-Band and X-Band Frequencies towards Radar and Information-Sensing Applications

10:20 – 10:50: Coffee Break