



Conference Programme

Kleinheubacher Tagung 2026

22. – 24. September 2026

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 German National Committee of URSI (U.R.S.I. Landesausschuss in Deutschland e.V.) and the Program Committee, it is my great pleasure to welcome you to the Kleinheubacher Tagung 2026 in Miltenberg, Germany.

For many decades, the Kleinheubacher Tagung has been a well-established forum for the radio science community, bringing together researchers from universities, research institutes, and industry. It provides an excellent opportunity to present recent scientific achievements, exchange ideas, discuss emerging challenges, and strengthen existing collaborations.



This year's scientific program comprising 70 scientific presentations once again reflects the broad spectrum of research represented by the URSI Commissions. In addition to the regular technical sessions, the conference features several special sessions and three plenary lectures covering both historical perspectives and current developments in radio science. We are particularly pleased to welcome Prof. Kristian Schlegel, former President of URSI, Prof. Dieter Bilitza, recipient of the Karl Rawer Gold Medal, and Dr. Gia Ngoc Phung as our plenary speakers.

Supporting early-career researchers remains one of the key objectives of the Kleinheubacher Tagung. The Young Scientist Award once again recognizes outstanding contributions by young researchers, and the strong response to this year's competition highlights both the high scientific quality and the continued attractiveness of the conference for the next generation of radio scientists.

Beyond the scientific sessions, the conference offers many opportunities for personal interaction. Informal discussions during breaks and social events often provide the starting point for new collaborations and valuable scientific exchanges that extend well beyond individual disciplines.

I would like to express my sincere gratitude to all authors, Commission Chairs, organizers of the special sessions, reviewers, members of the Program Committee, and everyone whose dedication and hard work have made this conference possible.

I wish you an inspiring, enjoyable, and successful Kleinheubacher Tagung 2026, as well as a pleasant stay in Miltenberg.

Ralph Latteck
Conference Chair

Programme at a Glance

Tuesday, 22.09.2026		Wednesday, 23.09.2026		Thursday, 24.09.2026	
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 - 09:10 Welcome					
09:20 - 11:00 Commission F-1 (5)	09:20 - 11:00 Commission B-1 (5)	09:00 - 11:00 Special Session G (6)	09:00 - 10:20 Commission D (4)	09:00 - 11:00 Special Session A (6)	09:00 - 11:00 Commission C-2 (6)
			10:20 - 11:00 Commission K (2)		
11:00 - 11:30 Coffee Break		11:00 - 11:30 Coffee Break		11:00 - 11:30 Coffee Break	
11:30 - 12:30 Plenary Talk Kristian Schlegel		11:30 - 12:30 Plenary Talk G Dieter Bilitza		11:30 - 12:30 Plenary Talk A Gia Ngoc Phung	
12:30 - 13:30 Lunch Break		12:30 - 13:30 Lunch Break		12:30 - 13:30 Lunch Break with Meeting of the U.R.S.I. Commission Chairs	
13:30 - 14:10 Commission C-1 (1)	13:30 - 15:30 Commission GJ (6)	13:30 - 15:30 YSA Session (6)		13:30 - 14:10 Commission A (2)	13:30 - 15:10 Commission C-3 (5)
14:10 - 15:30 Commission F-2 (4)				14:10 - 15:10 Commission E (3)	
15:30 - 16:00 Coffee Break				15:10 - 16:00 Coffee Break	
16:00 - 17:20 Commission F-3 (4)	16:00 - 17:40 Commission B-2 (5)	15:30 - 17:00 Coffee Break with Meeting of the YSA Reviewers		16:00 - 17:40 U.R.S.I. Member Meeting	
		18:00 - 20:00 Boat Tour on the Main River Presentation of the YS and KJL Awards			
20:30 - 22:00 Guided Night Tour "Im Schein der Laterne"					

Program Committee

Ralph Latteck (Conference Chair)

Leibnitz-Institut für Atmosphärenphysik, Kühlungsborn

Stefano Turso (Technical Program Chair)

Fraunhofer Institute for High Frequency Physics and Radar Techniques FHR, Germany

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

Alexander Kraus (Vice President)

Max-Planck-Institut für Radioastronomie, Bonn

Eckard Bogenfeld (Managing Director)

Deutsche Telekom AG, Darmstadt

General Information

Dates and Location

22. – 24. September 2026
Miltenberg, Germany
<https://www.kh2026.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 12.09.2026):
<https://www.kh2026.de/registration.html>

Old Townhall, Foyer

Monday, 21.09.2026:	18:00 – 19:30
Tuesday, 22.09.2026:	08:00 – 17:30
Wednesday, 23.09.2026:	08:30 – 17:30
Thursday, 24.09.2026:	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, 22.09.2026, 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, 23.09.2026, 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, 24.09.2026, 12:30 – 13:30
Where: Old Townhall (Altes Rathaus) - Meeting Room

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

When: Thursday, 24.09.2026, 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, the U.R.S.I. Landesausschuss in Deutschland e.V. offers up to 10 Young Scientist Awards (YSA) as part of the Kleinheubach conference.

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.

The selection of YSA recipients was based upon an examination of the extended abstracts and auxiliary 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.

A special YSA session will take place in the early afternoon of Wednesday, September 23th, in the auditorium of the Old Townhall (the main conference venue). In this session all YSA awardees present their work to the participants of the meeting.

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 23th.

Alexander Kraus

Chair of the YSA Committee

YSA Recipients

Omid Abed (Kommission A)

Physikalisch Technische Bundesanstalt, Germany

Realisation of an SI-Traceable Phase Noise Reference at PTB

Jonas Christ (Kommission B)

Technical University Darmstadt, Germany

Modeling of Coherent Synchrotron Radiation Wakefields using a Scattered-Field Formulation

Joshua Tetzner (Kommission B)

Universität Rostock, Germany

Orientation-Aware Pivoting for DH^2 -Matrix Compression for the Solution of the Electric Field Integral Equation

Florian Euchner (Kommission C)

University of Stuttgart, Germany

Visualizing Wireless Propagation and Polarization in Augmented Reality with ESPARGOS

Florian Günzkofer (Kommission G)

German Aerospace Center (DLR), Germany

Dual-frequency incoherent scatter radar measurements

Maria Gloria Tan Jun Rios (Kommission G)

German Aerospace Center (DLR), Germany

Long-Term Changes in the Ionospheric Response to Solar and Geomagnetic Forcing Over the Past Five Solar Cycles

Prizegiving Ceremony for YSA and KJLA Winners

When: Wednesday, 23.09.2026, 18:00 – 20:00

Where: During the boat tour on the Main river (see details on page [7](#))

Invited Plenary Presentations

Kristian Schlegel

(Independent Researcher and Copernicus Gesellschaft Göttingen)

Scientists who shaped the early Kleinheubach conferences

Tuesday, 22.09.2026, 11:30 – 12:30

Old Townhall (Bürgersaal)

Dieter Bilitza

(George Mason University NASA Goddard Space Flight Center, USA)

Bodo Reinisch (1936-2025): Revolutionizing Imaging of the Ionosphere from Below and Above

Wednesday, 23.09.2026, 11:30 – 12:30

Old Townhall (Bürgersaal)

Gia Ngoc Phung

(Physikalisch-Technische Bundesanstalt, Germany)

Traceable Uncertainties in On-Wafer Microwave Calibrations

Thursday, 24.09.2026, 11:30 – 12:30

Old Townhall (Bürgersaal)

Plenary Speakers

Kristian Schlegel

Dr. Kristian Schlegel studied Physics and Mathematics at the Technische Hochschule Karlsruhe, where he received his Diploma in Physics in 1964. He earned his Ph.D. in Physics from the University of Kiel in 1967 and completed his habilitation at the University of Göttingen in 1990. From 1968 until his retirement in 2002, Dr. Schlegel was a scientist at the Max Planck Institute for Aeronomy (now the Max Planck Institute for Solar System Research), where he became a Senior Scientist in 1971. He also served as Privatdozent and later Adjunct Professor at the University of Göttingen and held guest professorships at universities and research institutes in Canada, England, Greece, Japan, Norway, China, and the United States. Dr. Schlegel has made significant contributions to atmospheric and ionospheric physics, plasma physics, solar–terrestrial relations, and space weather. He served as Vice President of the International Union of Radio Science (URSI) from 1999 to 2002 and as URSI President from 2002 to 2005, followed by his term as Past President until 2008. Since 2010, he has been the Managing Editor of the international open-access journal *History of Geo- and Space Sciences*. His scientific career has been dedicated to advancing the understanding of the near-Earth space environment and fostering international collaboration in radio science.



Dieter Bilitza

Dr. Bilitza obtained his PhD from the Albert-Ludwigs University in Freiburg, Germany in 1984. He worked at NASA's Goddard Space Flight Center in Greenbelt, Maryland, USA from 1985 until his retirement in 2024 and as Research Professor at the Department of Physics and Astronomy of George Mason University in Fairfax, Virginia, USA since 2007. His area of expertise is ionospheric physics and space weather. He is the principal author of the International Reference Ionosphere (IRI) the ISO (International Standardization Organization) standard for the ionosphere. He continues his collaborations on improvements of the IRI model in particular regarding the inclusion of sporadic-E, on its extension to the plasmasphere, and on a better representation of real-time conditions with the help of data assimilative techniques. He is the recipient of the 2007 NASA Space Science Achievement Award, the 2013 Kristian Birke-land Medal for Space Weather and Space Climate, the 2017 Karl Rauer Gold Medal of the International Union of Radio Science, and the 2024 COSPAR International Cooperation Medal (as a special honor, IAU names a Minor Planet after COSPAR Award recipients; MP 20061/Bilitza is a minor planet orbiting between Mars and Jupiter).



Gia Ngoc Phung

Dr. Gia Ngoc Phung received the Dipl.-Ing. and Ph.D. degrees in electrical engineering from Technische Universität Berlin, Germany, in 2012 and 2021, respectively. Since 2019, she has been with the Physikalisch-Technische Bundesanstalt (PTB), Braunschweig, Germany, where her research focuses on on-wafer metrology, dielectric material characterization, and RF and microwave metrology.



She is the coordinator of the European Metrology Partnership Project 23IND10 OnMicro, which brings together European national metrology institutes, research organizations, universities, and industrial partners to advance traceable on-wafer measurements for emerging microwave and millimeter-wave technologies.

She has authored and co-authored more than 50 scientific publications and is actively involved in the Automatic RF Techniques Group (ARFTG), serving on its Executive Committee. In 2026, she served as Technical Program Committee (TPC) Chair of the 107th ARFTG Microwave Measurement Conference in Boston.

Her distinctions include the European Microwave Prize (2011), the Young Scientist Award at the Kleinheubach Conference (2021), the APMC Prize (2025), and the Best Oral Presentation Award at the 107th ARFTG Microwave Measurement Conference (2026).

09:00 – 09:10: Welcome

**09:20 – 11:00: Commission F - Part 1
Scattering and Radar I**

Chairs: Patrick Tracksdorf, Jörg Steinert, Madhu Chandra

09:20 – 09:40: KH2026-F-1-1

M. V. Hafteh, D. R. Huyghebaert, T. Renkwitz, R. Latteck, J. Chau (Institute of Atmospheric Physics (IAP), Germany)

High-Resolution Multi-beam Multi-Static Observations of MLT Dynamics with the MAARSY Radar

09:40 – 10:00: KH2026-F-1-2

J. Chau, J. Vierinen, M. Clahsen, D. R. Huyghebaert, D. Knack, T. Renkwitz (Institute of Atmospheric Physics (IAP), Germany, et al.)

Observations of Plasma Irregularity Trails Produced by an uncontrolled Falcon 9 Re-entry Using a Multi-static Meteor Radar over Northern Germany

10:00 – 10:20: KH2026-F-1-3

E. Terveer, D. Fischer, R. Zichner, M. Chandra (FH Münster, Germany, et al.)

S-Parameter variations inside a cylindrical resonator during live microwave plasma

10:20 – 10:40: KH2026-F-1-4

F. Gekat, P. Gölz, S. Kauczok, M. Pool, D. Ridène (Leonardo Germany GmbH, Germany, et al.)

Measurement of the pulse compression performance of a solid state weather radar with a fiber optic delay line

10:40 – 11:00: KH2026-F-1-5

L. Grundhöfer, N. Hehenkamp, M. F. Grützmann, S. Gewies, F. Heymann, V. Wendt (Deutsches Zentrum Für Luft- Und Raumfahrt, Germany, et al.)

Medium Frequency Monitoring Station for Atmospheric Research

11:00 – 11:30: Coffee Break

11:30 – 12:30: Plenary Talk

Chair: Ralph Latteck

KH2026-P-1

K. Schlegel

(Independent Researcher & Copernicus Gesellschaft Göttingen, Germany)

Scientists who shaped the early Kleinheubach conferences

12:30 – 13:30: Lunch Break

**13:30 – 14:10: Commission C - Part 1
Radio Communication Systems and Signal Processing**

Chair: André Buchau

13:30 – 14:10: KH2026-C-1-1

W. Mathis (Leibniz Universität Hannover, Germany)
Hans Georg Musmann (1935-2025) - A life dedicated to digital technology: From nonlinear resonant circuits for binary memory to source coding and the standardization of MP3 and MPEG 4

**14:10 – 15:30: Commission F - Part 2
Automotive and Navigation**

Chairs: Jörg Steinert, Dirk Fischer, Madhu Chandra

14:10 – 14:30: KH2026-F-2-1

N. Hehenkamp, F. G. Rizzi, L. Grundhöfer, S. Gewies (Deutsches Zentrum Für Luft- Und Raumfahrt, Germany, et al.)

Measurement Method for Validating a Ground-Wave Propagation Model for medium frequency R-Mode Signals

14:30 – 14:50: KH2026-F-2-2

W. A. Shah, S. H. Kazimi, N. Razi, P. Ghasemian, D. Vollbracht, M. Clemens (University of Wuppertal, Germany, et al.)

A W Band High Gain Series Fed Air Waveguide Slot Array Antenna for Automotive Radar Applications

14:50 – 15:10: KH2026-F-2-3

M. A. Raslan, A. Becker, M. Atzmueller (Fachhochschule Dortmund, Germany, et al.)

A Multi-Level Sim-to-Real Validation Framework for Simulated Radar Traffic Scenes Using Real Traffic Radar Observations

15:10 – 15:30: KH2026-F-2-4

W. A. Shah, P. Ghasemian, N. Razi, S. H. Kazimi, D. Vollbracht, M. Clemens (University of Wuppertal, Germany, et al.)

A Low-loss Compact Reflective Horn Air Waveguide Antenna for Millimeter-Wave Automotive Radar Applications

15:30 – 16:00: Coffee Break

16:00 – 17:20: Commission F - Part 3

Scattering and Radar II

Chairs: Stefano Turso, Patrick Tracksdorf, Madhu Chandra

16:00 – 16:20: KH2026-F-3-1

J. F. Conte, E. Gularte, T. Renkowitz, R. Latteck, C. Jacobi, M. Tsutsumi, N. Gulbrandsen, S. Nozawa (Institute of Atmospheric Physics (IAP), Germany, et al.)

Bridging data gaps in meteor radar wind measurements: A hybrid Machine Learning approach for Atmospheric Dynamics

16:20 – 16:40: KH2026-F-3-2

J. Steinert (DWD, Germany)

Special features in the presentation of radar observables and derived radar products

16:40 – 17:00: KH2026-F-3-3

P. Tracksdorf, M. Chandra (Deutscher Wetterdienst, Germany, et al.)

Separating Weather Radar Echo-Power into Precipitation and Clutter in Time-Domain cont

17:00 – 17:20: KH2026-F-3-4

A. Vyas, P. Tracksdorf, M. Chandra (Chemnitz University of Technology, Germany, et al.)

Dual-Frequency Differential Reflectivity for Weather Radars of the Next Generation

**09:20 – 11:00: Commission B - Part 1
Fields and Waves**

Chair: Thomas F. Eibert

09:20 – 09:40: KH2026-B-1-1

M. Eberspächer (Technische Hochschule Würzburg-Schweinfurt, Germany)

Analytical Description of CRLH Unit-Cell Dispersion Characteristics Based on Coupled-Line Theory

09:40 – 10:00: KH2026-B-1-2

M. Eberspächer, N. Kumar (Technische Hochschule Würzburg-Schweinfurt, Germany, et al.)

Investigation of adulteration effects in liquids using CRLH based sensor

10:00 – 10:20: KH2026-B-1-3

J. A. Oladapo, S. B. Adrian, M. Eberspächer (University of Rostock & Technische Hochschule Würzburg-Schweinfurt, Germany, et al.)

Passive Harmonic Radar Tag Concept for Angle Estimation

10:20 – 10:40: KH2026-B-1-4

A. Sudheendra, M. Eberspächer (Technical University of Applied Sciences Würzburg-Schweinfurt, Germany, et al.)

Design and Development of a Slotted Ridge Gap Waveguide X-Band Antenna with Low Sidelobe Level

10:40 – 11:00: KH2026-B-1-5

N. Haußmann, F. Kasolis, M. Clemens, M. Günther (University of Wuppertal, Germany, et al.)

Structure-Preserving Coupling of Transmission Lines and Electromagnetic Fields: A Port-Hamiltonian Approach

11:00 – 11:30: Coffee Break

12:30 – 13:30: Lunch Break

**13:30 – 15:30: Commissions GJ
Ionospheric Radio and Propagation &
Radio Astronomy**

Chair: Ralph Latteck

13:30 – 13:50: KH2026-GJ-1-1

E. Schmölter, J. Berdermann (German Aerospace Center, Germany)

Impact of Severe Space Weather on GNSS-based Navigation in Aviation during Solar Cycle 25

13:50 – 14:10: KH2026-GJ-1-2

G. Suresh, T. Renkwitz, J. Chau (Institute of Atmospheric Physics (IAP), Germany)

D-Region Electron Density Retrieval and MLT Wind Variability over the Southern Baltic Sea Region

14:10 – 14:30: KH2026-GJ-1-3

R. Latteck, D. R. Huyghebaert, M. V. Hafteh, T. Renkwitz, J. Chau (Institute of Atmospheric Physics (IAP), Germany)

Resolving Space-Time Ambiguities in PMSE Observations Using the MAARSY-3D VHF Radar System

14:30 – 14:50: KH2026-GJ-1-4

T. Renkwitz, I. Strelnikova, R. Latteck (Institute of Atmospheric Physics (IAP), Germany, et al.)

VHF radar echoes from the mesosphere and their connection to turbulence and neutral dynamics

14:50 – 15:10: KH2026-GJ-1-5

Y. K. Krishnakumar, T. Renkwitz, A. Ahrens (Universidad Politecnica de Madrid, Spain, et al.)

Detection of Low-altitude Isolated Mesospheric Radar Echoes with YOLOv8: Insights into a Possible C-Layer below 60 km

15:10 – 15:30: KH2026-GJ-1-6

A. Kraus, U. Bach (Max-Planck-Institut für Radioastronomie, Germany, et al.)

Continuum Polarization observations at the Effelsberg 100-m radio telescope - new results

15:30 – 16:00: Coffee Break

16:00 – 17:40: Commission B - Part 2**Fields and Waves**

Chair: Markus Clemens

16:00 – 16:20: KH2026-B-2-1

P. Respondek, S. B. Adrian (Universität Rostock, Germany)

Investigation of boundary integral equation formulations with complete electrode model for biomedical applications

16:20 – 16:40: KH2026-B-2-2

T. L. Stöhr, P. Respondek, S. B. Adrian (Universität Rostock, Germany)

Electroquasistatic Direct Integral Equation Formulations for an Extended Double Shell Model with Thin Impedance Boundary Conditions to Model a Biological Cell and its Pericellular Matrix

16:40 – 17:00: KH2026-B-2-3

Y. Yu, R. Jacobs, H. G. Krauthäuser (Technische Universität Dresden, Germany)

Description of spherical wave modes in GTEM cells

17:00 – 17:20: KH2026-B-2-4

B. Karakin, T. F. Eibert (Technical University of Munich, Germany, et al.)

Huygens Principle Based Ray Tracing with Octree-Driven Radiation Pattern Aggregation and Adaptive Ray Launching

17:20 – 17:40: KH2026-B-2-5

T. F. Eibert, D. Unruh, S. Punzet, K. Schlickenrieder, A. H. Paulus (Technical University of Munich (TUM) & Chair of High-Frequency Engineering (HFT), Germany, et al.)

Coherent UAV-Based Near-Field Measurements and Transformations for Large Ground Station Antennas

09:00 – 11:00: Commissions G-SpS**Ionosphere research – from the basics to practical applications**

Chair: Jens Berdermann

09:00 – 09:20: KH2026-G-SpS-1-1

J. Mielich (Institute of Atmospheric Physics (IAP), Germany)

Bridging Long-Term Ionospheric Observations and Digital Innovation: The Juliusruh-Digisonde Synergy in Honor of Prof. Bodo W. Reinisch

09:20 – 09:40: KH2026-G-SpS-1-2

C. Jacobi, T. Renkwitz, R. Latteck, R. I. Vaishnav, A. Bizdaz (Leipzig University, Germany, et al.)

Decreasing height of mesosphere-lower thermosphere wind systems seen in radar observations over Germany

09:40 – 10:00: KH2026-G-SpS-1-3

H. Dühnen, R. I. Vaishnav, E. Schmölter, C. Jacobi (German Aerospace Center, Germany, et al.)

Analysis of the processes controlling the ionospheric delay with a simplified model

10:00 – 10:20: KH2026-G-SpS-1-4

M. M. Hoque, M. Moreno, M. Semmling, N. Jakowski, J. A. Cahuasquí, G. Nykiel (German Aerospace Center (DLR), Germany, et al.)

Ionospheric correction model and perturbation indices for aiding GNSS applications used in WeGA project

10:20 – 10:40: KH2026-G-SpS-1-5

N. Jakowski, M. M. Hoque, M. G. T. J. Rios (German Aerospace Center, Germany, et al.)

Long-term trends of ionospheric peak electron density and height

10:40 – 11:00: KH2026-G-SpS-1-6

R. I. Vaishnav, C. Jacobi (Leipzig University, Germany)

Multiple Drivers of Ionospheric Variability: Insights from Observations and Model Simulations

11:00 – 11:30: Coffee Break

11:30 – 12:30: Plenary Talk

Chair: Jens Berdermann

KH2026-P-2

D. Bilitza

(George Mason University & NASA Goddard Space Flight Center, USA)

Bodo Reinisch (1936-2025): Revolutionizing Imaging of the Ionosphere from Below and Above

12:30 – 13:30: Lunch Break

13:30 – 15:30: YSA - Part 1**Young Scientist Awards**

Chair: Alexander Kraus

13:30 – 13:50: KH2026-YSA-1-1

F. Günzkofer, G. Stober, C. Borries (German Aerospace Center (DLR), Germany, et al.)

Dual-frequency incoherent scatter radar measurements

13:50 – 14:10: KH2026-YSA-1-2

J. Christ, E. Gjonaj (Technical University of Darmstadt, Germany)

Modeling of Coherent Synchrotron Radiation Wakefields using a Scattered-Field Formulation

14:10 – 14:30: KH2026-YSA-1-3

F. Euchner, S. t. Brink (University of Stuttgart, Germany)

Visualizing Wireless Propagation and Polarization in Augmented Reality with ESPARGOS

14:30 – 14:50: KH2026-YSA-1-4

M. G. T. J. Rios, C. Borries, H. Liu (German Aerospace Center (DLR), Germany, et al.)

Long-Term Changes in the Ionospheric Response to Solar and Geomagnetic Forcing Over the Past Five Solar Cycles

14:50 – 15:10: KH2026-YSA-1-5

O. Abed, N. Meyne, F. Rausche, T. Kleine-Ostmann (Physikalisch Technische Bundesanstalt, Germany, et al.)

Realisation of an SI-Traceable Phase Noise Reference at PTB

15:10 – 15:30: KH2026-YSA-1-6

J. M. Tetzner, S. B. Adrian (Universität Rostock, Germany)

Orientation-Aware Pivoting for DH^2 -Matrix Compression for the Solution of the Electric Field Integral Equation

15:30 – 17:00: Coffee Break with Meeting of the YSA Reviewers

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

11:00 – 11:30: Coffee Break

12:30 – 13:30: Lunch Break

09:00 – 09:20: KH2026-D-1-1

P. Schiefer, V. Müller, T. Oberschulte, H. Blume (Leibniz Universität Hannover & Max-Planck Institute for Gravitational Physics (Albert Einstein Institute), Germany, et al.)

FPGA-Based Signal Processing for the Laser Tracking Instrument on the Next Generation Gravity Mission

09:20 – 09:40: KH2026-D-1-2

D. C. Langhorst, H. Blume (Leibniz Universität Hannover, Germany)

Low-Cost Optical Sensing and Signal Processing for Reflective Automotive Surface Inspection

09:40 – 10:00: KH2026-D-1-3

C. A. Martin, D. Killat (Brandenburg University of Technology, Germany)

Zoom ADC with Hybrid Integrators

10:00 – 10:20: KH2026-D-1-4

S. Obergassel, P. Pitonak, D. Killat (Anabrid, Germany, et al.)

A Fully Reconfigurable Analog Computing Chip with Experimental Validation of Continuous-Time Mathematical Models

10:20 – 11:00: Commission K**Electromagnetics in Biology and Medicine**Chair: Frank Gronwald

10:20 – 10:40: KH2026-K-1-1

K. V. Reddy, M. Yahya, J. Götze (Technische Universität Dortmund, Germany, et al.)

Reward-Guided Reinforcement Learning Optimization for Vital Signal Anomaly Detection

10:40 – 11:00: KH2026-K-1-2

T. Almeev, J. P. Payonk, S. Spors, U. van Rienen (Universität Rostock, Germany, et al.)

Toward Material-Wise Domain-Decomposed PINNs for Electric Field Modelling in Deep Brain Stimulation

09:00 – 11:00: Commissions A-SpS**Metrology for 6G**

Chair: Thomas Kleine-Ostmann

09:00 – 09:20: KH2026-A-SpS-1-1G. Krishnan, K. Mallick, J. Meier, T. Schneider
(Technische Universität Braunschweig, Germany, et al.)*Photonics AI Acceleration for 6G MIMO Signal Processing*

09:20 – 09:40: KH2026-A-SpS-1-2

K. Baaske, D. Ulm (Physikalisch-Technische Bundesanstalt, Germany)

Near-field Characterization for 6G Devices

09:40 – 10:00: KH2026-A-SpS-1-3

B. Röben (Physikalisch-Technische Bundesanstalt, Germany)

Terahertz Metrology for 6G

10:00 – 10:20: KH2026-A-SpS-1-4

O. Abed, N. Meyne, T. Kleine-Ostmann (Physikalisch Technische Bundesanstalt, Germany, et al.)

Phase Noise Metrology for Advanced Communication Systems

10:20 – 10:40: KH2026-A-SpS-1-5

L. Cordes, T. T. Braun, N. Pohl (Ruhr University of Bochum, Germany, et al.)

Analyzing Frequency-Dependent IQ Imbalance in D-Band Direct-Upconversion Transmitter ICs

10:40 – 11:00: KH2026-A-SpS-1-6

H. Füser (Physikalisch-Technische Bundesanstalt (PTB), Germany)

Optoelectronic Waveform Metrology

11:00 – 11:30: Coffee Break

11:30 – 12:30: Plenary Talk

Chair: Thomas Kleine-Ostmann

KH2026-P-3

G. N. Phung

(Physikalisch-Technische Bundesanstalt, Germany)

Traceable Uncertainties in On-Wafer Microwave Calibrations

12:30 – 13:30: Lunch Break with Meeting of the U. R. S. I. Commission Chairs

13:30 – 14:10: Commission A**Electromagnetic Metrology**

Chair: Thomas Kleine Ostmann

13:30 – 13:50: KH2026-A-1-1J. Gundlach, D. Ulm, T. Kleine-Ostmann
(Physikalisch-Technische Bundesanstalt & TU Braunschweig, Germany, et al.)*Demonstration of a System for UAV-Based Near-Field Antenna Measurement and Validation of Initial Results*

13:50 – 14:10: KH2026-A-1-2

M. Vogt, E. Mutlu, O. Dubray, J. Friderich (Ruhr-University Bochum & Institute of Electronic Circuits, Germany, et al.)

Analysis and Simulation of Time-Domain Reflectometry (TDR) Systems for Level Measurement

14:10 – 15:10: Commission E**Electromagnetic Environment and Interference**

Chair: Frank Gronwald

14:10 – 14:30: KH2026-E-1-1

M. Holzner, M. J. Lange, S. Lindenmeier (Universität der Bundeswehr München, Germany, et al.)

Ground Plane Independent Terrestrial and Satellite Antenna Combination Vehicular Applications

14:30 – 14:50: KH2026-E-1-2

M. Halbe, S. Battermann (Hochschule Bielefeld - University of Applied Sciences and Arts, Germany)

Analysis and Simulation of a Broadband TEM Horn Antenna for Resonance-Based Object Classification

14:50 – 15:10: KH2026-E-1-3

F. Gronwald (University of Siegen, Germany)

Characteristic Modes for the EMC Analysis of Aperture Backed Cavity Problems

15:10 – 16:00: Coffee Break

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

**09:00 – 11:00: Commission C - Part 2
Wave Propagation and Remote Sensing**

Chair: André Buchau

09:00 – 09:20: KH2026-C-2-1

M. Spahn, A. Probst, M. Wölfel, F. Keil, U. Bochtler (Technische Hochschule Aschaffenburg, Germany, et al.)

Signal strength analysis in a TETRA communication system

09:20 – 09:40: KH2026-C-2-2

E. Mustapha, I. Gaspard, M. Kuhn (Hochschule Darmstadt, Germany, et al.)

Assessing Linearity Performance for RF-Over-IP Architectures Using a Noise Power Ratio (NPR) Approach

09:40 – 10:00: KH2026-C-2-3

F. B. K. Schmitt, M. Holder, M. Eberspächer (Technical University of Applied Sciences Würzburg-Schweinfurt, Germany, et al.)

A CLEAN-Based Approach for Suppressing Surface Reflections in Imaging Radar

10:00 – 10:20: KH2026-C-2-4

F. Asadi, J. Westerhoff, U. Iurgel, S. Leßmann, A. Becker (APTIV, Germany, et al.)

Beyond CFAR Limitations: ML-Based Radar Target Selection in Range-Doppler Domain, A New Perspective with Robust Metrics

10:20 – 10:40: KH2026-C-2-5

M. Clahsen, J. Chau, D. R. Huyghebaert, C. Kapil (Institute of Atmospheric Physics (IAP), Germany, et al.)

Detection and Classification of radar echoes using Machine learning in multistatic interferometric meteor radars

10:40 – 11:00: KH2026-C-2-6

M. Yahya, D. Rau, J. Götze (Technical University Dortmund, Germany, et al.)

Interpretable and Scalable Sleep Apnea Detection via Structured Kernel Learning in Gaussian Processes

11:00 – 11:30: Coffee Break

12:30 – 13:30: Lunch Break with Meeting of the U. R. S. I. Commission Chairs

13:30 – 15:10: Commission C - Part 3

Radio Communication Systems and Signal Processing

Chair: André Buchau

13:30 – 13:50: KH2026-C-3-1

C. Wimmer, M. Krondorf (HTWK Leipzig, Germany) *Neural Network-Based Blind Maximum Ratio Combining under Unequal Noise Powers*

13:50 – 14:10: KH2026-C-3-2

N. G. Shoaee, K. Muthusamy, W. John, R. Brüning, J. Götze (TU Dortmund & AG Datentechnik, Germany, et al.)

A Variational Autoencoder Framework for PCB Power Delivery Network Design

14:10 – 14:30: KH2026-C-3-3

E. Ecik, W. John, J. Withöft, R. Brüning, J. Götze (TU Dortmund University, Germany, et al.)

Datengetriebene Entwurfsunterstützung für die entscheidungsbaum-basierte Bewertung der Signal-Integrität in der Pre-Layout-Phase

14:30 – 14:50: KH2026-C-3-4

J. Withöft, S. Ghanbari, W. John, E. Ecik, R. Brüning, J. Götze (TU Dortmund, Germany, et al.)

Neural Network Architectures for Transient Modeling in High-Dimensional Signal Integrity Design Spaces

14:50 – 15:10: KH2026-C-3-5

J. Withöft, W. John, E. Ecik, G. Luong, R. Brüning, J. Götze (TU Dortmund, Germany, et al.)

Learning Parameterized Solutions of the Telegrapher's Equations Using Data-Driven and Physics-Informed Neural Networks

15:10 – 16:00: Coffee Break

