

MFPA an der Bauhaus-Universität Weimar, Coudraystraße 9

Hörsaal 6 / Auditorium 6

ZEIT / time	Dienstag / Tuesday - 05.10
8:00-9:00	Anmeldung / Registration
9:00-9:20	Begrüßung / Welcome Address Prof. Kießl
9:20-9:40	Plenary Lectures Chair: Kaatze / Kupfer
9:40-10:00	PL - Kupfer et al. PL - Kaatze
10:00-10:25	Kaffeepause / Coffee break / Poster
	Session 1 Electromagnetic Methods in Frequency Domain Chair: Knöchel / Nyfors
10:25-10:45	PL - Kent
10:45-11:00	Knöchel et al.
11:00-11:15	Nyfors et al.
11:15-11:30	Makeev et al.
11:30-11:45	Wagner et al.
11:45-12:00	Daschner et al.
12:00-13:25	Mittagspause / Lunch break
	Session 2 Electromagnetic Methods in Time Domain Chair: Sachs / Sobczuk
13:25-13:45	PL - Sobczuk
13:45-14:00	Skierucha
14:00-14:15	Trebbels et al.
14:15-14:30	Schimmer et al.
14:30-14:45	Bonitz et al.
14:45-15:00	Mextorf et al.
15:00-15:30	Kaffeepause / Coffee break / Poster
15:30-15:45	Schilling et al.
15:45-16:00	Pavlik et al.
16:00-16:15	Neveux et al.
16:15-16:30	Trinks et al.
16:30-16:45	Manthee et al.
16:45-17:30	Poster

ZEIT / time	Mittwoch / Wednesday - 06.10.
8:00-9:00	Anmeldung / Registration
	Session 3 Soil moisture estimation and monitoring Chair: Hübner / Brandelik
9:00-9:20	PL - Brandelik et al.
9:20-9:35	Jagdhuber et al.
9:35-9:50	Jotter et al.
9:50-10:05	Lück et al.
10:05-10:30	Kaffeepause / Coffee break / Poster
10:30-10:45	Wagner et al.
10:45-11:00	Kaden et al.
11:00-11:15	Koncz et al.
11:15-11:30	Xavier et al.
11:30-11:45	Augenstein et al.
11:45-12:00	Beyer et al.
12:00-13:45	Mittagspause / Lunch break
	Session 4 / 6 Analytical Reference Methods... / Effects of Electromagnetic Radiation Chair: Kaatze / Isengard
13:45-14:00	Isengard
14:00-14:15	Lorek et al.
14:15-14:30	Stratmann
14:30-14:45	Shalatonin et al.
14:45-15:00	Tamelo et al.
15:00-15:30	Kaffeepause / Coffee break / Poster
	Session 5 Moisture Measurement of Biological Substances Chair: Kent / Kupfer
15:30-15:45	Kupfer et al.
15:45-16:00	Paz
16:00-16:15	Hübner et al.
16:15-16:30	Lang et al.
16:30-17:00	Poster
Abfahrt / Departure 17:00	Conference Meeting Leuchtenburg

ZEIT / time	Donnerstag / Thursday - 07.10.
8:00-9:00	Anmeldung / Registration
	Session 7 Moisture Measurement in Civil Engineering Chair: Plagge / Cerny
9:00-9:15	Pavlik et al.
9:15-9:30	Plagge et al.
9:30-9:45	Garrecht et al.
9:45-10:00	Wagenknecht et al.
10:00-10:30	Kaffeepause / Coffee break / Poster
10:30-10:45	Helbig et al.
10:45-11:00	Khalil et al.
11:00-11:15	Göller et al.
11:15-11:30	Gärtner et al.
11:30-11:45	Nilsson et al.
11:45-12:00	von Gratowski and Meriakri
12:00-13:30	Mittagspause / Lunch break
13:30-13:45	Göller
13:45-14:00	Denzel
14:00-14:15	Wetzlar
14:15-14:30	Zusammenfassung / Summary
14:30	Tagungsende / Closing

Dienstag / Tuesday - 05.10

- 9:20-9:40 **Plenary lecture / Plenarvortrag**
Moisture measurement from space and methods of reference measurement
K. Kupfer, F. Bonitz, Ch. Hübner
- 9:40-10:00 **Plenary lecture / Plenarvortrag**
Effect of solute structure and flexibility on the dielectric properties of water
U. Kaatz

10:00-10:25 Kaffeepause / Coffee break / Poster

Session 1

Electromagnetic Methods for Moisture Determination in Frequency Domain
Elektromagnetische Verfahren zur Feuchtebestimmung im Frequenzbereich

Chair: Knöchel / Nyfors

- 10:25-10:45 **Plenary lecture / Plenarvortrag**
A review of a decade of multivariate applications in the study of aqueous dielectrics
M. Kent
- 10:45-11:00 A resonator-based moisture meter for high moisture levels
R. Knöchel, R. Jahns, W. Taute, C. Döscher
- 11:00-11:15 Ceramic microwave sensor for wet gas salinity measurements
E. Nyfors, M. Risdal, J. Pedersen, L. Jordaán
- 11:15-11:30 Microwave measurement of water content in flowing crude oil
Y. V. Makeev, A. P. Lifanov, A. S. Sovlukov
- 11:30-11:45 Transformation einer globalen Kalibrierung beim Mikrowellenresonanzverfahren auf das zu messende Material
R. Wagner, E. Trinks, K. Uschmann, N. Wagner, K. Kupfer
- 11:45-12:00 Antennas with slant radiation characteristics for contactless material characterisation at 24 GHz
F. Daschner, R. Knöchel

12:00-13:25 Mittagspause / Lunch break

Mittwoch / Wednesday - 06.10.

Session 3

Soil moisture estimation and monitoring
Feuchteerfassung und -monitoring im Boden

Chair: Hübner / Brandelik

- 9:00-9:20 **Plenary lecture / Plenarvortrag**
From local to overland soil moisture sensing, twenty years progression in Karlsruhe
A. Brandelik, Ch. Hübner
- 9:20-9:35 Estimation of soil moisture under vegetation cover applying a hybrid decomposition on polarimetric SAR data
Th. Jagdhuber, I. Hajnsek, K. P. Papathanassiou, A. Bronstert
- 9:35-9:50 Wireless soil moisture sensing for vineyard irrigation
K. Jotter, Ch. Hübner, K. Spohrer, T. Wagenknecht, N. Weickert, R. Cardell-Oliver, R. Becker, M. Lenz
- 9:50-10:05 Abschätzung der Bodenfeuchte aus geoelektrischen Messungen
E. Lück, J. Rühlmann
- 10:05-10:30 **Kaffeepause / Coffee break / Poster**
- 10:30-10:45 Broadband electromagnetic characterization of two-port rod based transmission lines for dielectric spectroscopy of soil
N. Wagner, B. Müller, A. Scheuermann, M. Schwing, K. Kupfer, F. Bonitz
- 10:45-11:00 Water adsorption hysteresis of swellable and non-swellable clays and soils detected with dielectric spectroscopy and thermal analysis
H. Kaden, K. Emmerich, R. Schuhmann, F. Königer
- 11:00-11:15 Characterisation of capacitive humidity sensors under Martian pressure and temperatures down to -120 °C
A. Koncz, A. Lorek, R. Wernecke
- 11:15-11:30 An innovative dielectric method for profiling soil water content
P. Xavier, F. A. Roces, J. P. Laurent, B. Mercier
- 11:30-11:45 Long term investigation of soil moisture performance for structural monitoring of landfill surface sealing systems via neutron probe measuring and lysimeter fields
M. Augenstein, D. Rettenmaier, M. Praschak, H. Hötzel

Session 2

Electromagnetic Methods for Moisture Determination in Time Domain
Elektromagnetische Verfahren zur Feuchtebestimmung im Zeitbereich

Chair: Sachs / Sobczuk

- 13:25-13:45 **Plenary lecture / Plenarvortrag**
Technology of TDR – sensors
H. Sobczuk
- 13:45-14:00 Aquametry developments in IA PAS Lublin, Poland
W. Skierucha
- 14:00-14:15 Digital low-cost time domain reflectometer circuit optimized for use in field applications
D. Trebbels, Ch. Hübner, R. Becker, R. Zengerle
- 14:15-14:30 Zeitbereichsreflektometer zur orts aufgelösten Bestimmung von Feuchtegehalten
O. Schimmer, Ch. Rahn, Th. Sokoll
- 14:30-14:45 A cylindrical probe geometry for spatial moisture profile reconstruction using UWB
F. Bonitz, N. Wagner, K. Kupfer, K. Schilling, J. Sachs
- 14:45-15:00 Non-contacting UWB-characterization of dielectric objects using multivariate calibration
H. Mextorf, F. Daschner, M. Kent, R. Knöchel

15:00-15:30 Kaffeepause / Coffee break / Poster

- 15:30-15:45 System on chip M-sequence sensor for moisture sensing and impedance spectroscopy
K. Schilling, J. Sachs, M. Kmec, R. Herrmann, M. Helbig, F. Bonitz, P. Rauschenbach
- 15:45-16:00 Moisture diffusivity function determined using inverse analysis of moisture profiles measured by TDR technique
Z. Pavlík, J. Míhulka, M. Pavlíková, L. Fiala, R. Cerný
- 16:00-16:15 A fast technique to retrieve permittivity profile from TDR measurements
Ph. Neveux, H. Bolvin, A. Chanzy
- 16:15-16:30 Entwicklung eines Messgerätesystems zur qualitativen und quantitativen Bestimmung von Feuchteprofilen in einem Verschlussbauwerk
E. Trinks, K. Kupfer, N. Wagner, M. Kuhne, B. Müller
- 16:30-16:45 Möglichkeiten und Grenzen des TDR-Kabelsensors beim Einsatz in salinarer Umgebung
F. Manthe, W. Fischle, W. Paehge, K. Kupfer, E. Trinks, B. Müller, R. Mauke

- 11:45-12:00 Zum Feuchtettransport in Deichabdeckschichten - Numerische Untersuchungen und Messaufgabe
K. Beyer, J. Grabe

12:00-13:45 Mittagspause / Lunch break

Session 4

Analytical Reference Methods for Moisture Determination
Analytische Referenzverfahren zur Feuchtebestimmung

Chair: Kaatz / Isengard

- 13:45-14:00 Water determination - Scientific and economic dimensions
H.-D. Isengard
- 14:00-14:15 Development of a gas flow independent coulometric trace humidity sensor for aerospace and industry
A. Lorek, A. Koncz, R. Wernecke
- 14:15-14:30 Why measure moisture content of pellets?
C. Stratmann

Session 6

Effects of Electromagnetic Radiation to the Human Organism
Auswirkungen von elektromagnetischer Strahlung auf den menschlichen Organismus

Chair: Kaatz / Isengard

- 14:30-14:45 Biological properties of water exposed to mobile phone radiation
V. Shalatonin, V. Mishchenko
- 14:45-15:00 Influence of terahertz waves on biological objects
A.A. Tarnel

15:00-15:30 Kaffeepause / Coffee break / Poster

Session 5

Moisture Measurement of Biological Substances Feuchtemessung von biologischen Substanzen

Chair: Kent / Kupfer

- 15:30-15:45 Resonator based moisture measurement of solids, liquids and food and its simulation with HFSS
K. Kupfer, G. Fuchs, R. Wagner, H. Kupfer, B. Müller
- 15:45-16:00 Moisture content determination from dielectric properties of solid biofuels
A. M. Paz
- 16:00-16:15 Optimization of hop drying and conditioning with electromagnetic material moisture sensors
Ch. Hübner, N. Weickert, K. Jotter, T. Wagenknecht, Ch. Euringer, M. Friedl, K. Köhler, T. Cemek
- 16:15-16:30 „Künstliche Früchte“ Online-Monitoring des Feuchtigkeitsverlustes bei pflanzlichen Frischeprodukten
C. Lang, Th. Hübner

Donnerstag / Thursday - 07.10.

Session 7

Application of Moisture Measurement in Civil Engineering Anwendungen der Feuchtemessung im Bauwesen

Chair: Plagge / Cerny

- 9:00-9:15 Application of Time Domain Reflectometry method for determination of parameters characterising coupled moisture and salt transport in porous media
Z. Pavlik, J. Mihulka, M. Pavliková, L. Fiala, R. Cerný
- 9:15-9:30 Einsatz von TDR zur kontinuierlichen Feuchtebestimmung in Laborexperimenten
R. Plagge, G. Scheffler, K. Kupfer, H. Sobczuk
- 9:30-9:45 Potenziale der Feuchtemessung mittels TDR in der Denkmalpflege
H. Garrecht, S. Reeb
- 9:45-10:00 Large area moisture monitoring in concrete building materials
T. Wagenknecht, C. Hübner, F. Königer, A. Brandelik, R. Schuhmann

Poster

- P-1 Installation technique for elongated sensors in dykes
A. Scheuermann, A. Bieberstein, N. Wagner, K. Kupfer, Ch. Hübner, R. Becker, S. Schlaeger
- P-2 Dielectric permittivity spectra of undisturbed soil samples from the Taunus region (Germany)
K. Lauer, N. Wagner, P. Felix-Henningsen
- P-3 Experimental investigation of soil dielectric parameters during shrinkage
M. Schwing, A. Scheuermann, N. Wagner
- P-4 Innovative TDR applications for nuclear waste disposal sites
H. Wörsching, Th. Trick
- P-5 Convective moisture transfer through walls and wall components
J. Schmidt, O. Kornadt
- P-6 Non-invasive detection of soil water content at intermediate scale using Cosmic-Ray Neutrons
C. A. Rivera Villarreyes, S. Oswald, G. Baroni

10:00-10:30 Kaffeepause / Coffee break / Poster

- 10:30-10:45 Entwicklung eines Sensorsystems zur Messung der Ausgleichsfeuchte in Estrichen
S. Helbig, A. Steinke, W. Hummel, B. Janorschke, R. Plagge
- 10:45-11:00 Determination of moisture profiles of building materials by micro focus X-ray projection
M. Khalil, R. Plagge, J. Grunewald, T. Ishizaki
- 11:00-11:15 MOIST SCAN – Multi layer moisture scans on large areas in practice
A. Göller
- 11:15-11:30 Determination of moisture content of the outer wall using hf-sensor technology
G. Gärtner, R. Plagge, H. Sonntag
- 11:30-11:45 Methods for measuring relative humidity (RH) in concrete floors – development and uncertainties
L.-O. Nilsson, M. Åhs
- 11:45-12:00 Millimeter waves application for non-destructive moisture monitoring and treatment of culture objects
S. V. von Gratowski, V. V. Meriaki

12:00-13:30 Mittagspause / Lunch break

- 13:30-13:45 Kontinuierliche Feuchteüberwachung in Ingenieurbauwerken mit MOIST MONITOR
A. Göller
- 13:45-14:00 Zerstörungsfreie Feuchtemessung
W. Denzel
- 14:00-14:15 Berührungslose NIR-Materialfeuchtemessung an Schüttgütern variabler Materialgemische
D. Wetzlar