

Session Program

November 26, 2025



MatFyz CONNECTIONS 2025

*Poster session + káva: prezentácie vedeckých výsledkov FMFI UK
Zamestnanci Fyzika*

Wed, November 26

3:15 PM

Poster session + káva: prezentácie vedeckých výsledkov FMFI UK Zamestnanci Fyzika

Session | Conveners: Robert Breier, Peter Cermak

3:15 – 3:16 PM

Preparation of Ti-Fe precursor layers for nanostructured applications using magnetron sputtering

3:16 – 3:17 PM

Large scale air decontamination system using dielectric barrier discharge combined with UV activated TiO₂

3:17 – 3:18 PM

Unraveling the Plasma-Photocatalysis Process: Coumarin Degradation Using a Modified Fountain DBD System

Speaker

Zdenko Machala

3:18 – 3:19 PM

Nonlocal Four-Terminal Method for Electrical Measurements

3:19 – 3:20 PM

Towards the minimal effective theory for leptogenesis, dark matter, and neutrino masses

Speaker

Peter Maták

3:20 – 3:21 PM

OSCAR Benchmark: Single-station Site Characterisation

3:21 – 3:22 PM

The study of nuclear structure in collaboration with ISOLDE

3:22 – 3:23 PM

Ultra-high-energy cosmic neutrino discovered with KM3NeT neutrino telescope

3:23 – 3:24 PM

Quantification of eroded Fe contamination in plasma activated water using Surface Assisted LIBS

3:24 – 3:25 PM

Real Charge Trapping in Hydroxyapatite Thin Films Prepared by Pulsed Laser Deposition

3:25 – 3:26 PM

Robust edge states in stacked Al/Ni-based multilayers

3:26 – 3:27 PM

Heterostructural decomposition in V_{1-x}W_xB₂-Δ films induced by B deficiency

3:27 – 3:28 PM

Matrix Models and Fuzzy Spaces

3:28 – 3:29 PM

Proximity phenomena in heterostructures consisting of superconductor – ferromagnet

3:29 – 3:30 PM

Plasma-activated water enhances growth, antioxidant activity and sensory quality of hydroponically grown lettuce

3:30 – 3:31 PM

Accelerator Mass Spectrometry of Beryllium-10

Speaker

Miroslav Jeskovsky

3:31 – 3:32 PM Reference laboratory data for astrophysics

3:32 – 3:33 PM Thermal Stability of Magnetoresistive Properties in Permalloy-Copper Alloy Thin Films

3:33 – 3:34 PM Stability of acrylic acid grafted microporous polymeric membranes in alkaline electrolyte

3:34 – 3:35 PM Designing Quadruple Grating Spatial Heterodyne Spectrometer (QGSHS)

3:35 – 3:36 PM

**NANOCOMPOSITE COATINGS WITH ENHANCED ANTIMICROBIAL AND ANTIVIRAL ACTIVITY
BASED ON SILVER NANOCCLUSERS INCORPORATED INTO HARD ORGANOSILICON MATRIX
PREPARED BY HIGH TARGET UTILIZATION SPUTTERING**

Speaker

Tomáš Roch

3:36 – 3:37 PM SUPERCONDUCTING DIODE EFFECT IN THIN FILMS WITH 100% EFFICIENCY

3:37 – 3:38 PM Reference data for optical spectroscopy of small molecules

3:38 – 3:39 PM Geant4 simulation of geomagnetic field

3:39 – 3:40 PM Study of laser ablation of Cu as a material suitable for thermonuclear reactor walls

3:40 – 3:41 PM Research on historical earthquakes in Eastern Slovakia

3:41 – 3:42 PM

Reflection-enhanced gain in traveling-wave parametric amplifiers and plasma oscillation phase matching

3:42 – 3:43 PM

Non-Thermal Plasma-Assisted VOC Decomposition: Influence of Catalyst Type, Electron Energy, and Gas Residence Time

4:45 PM