

# P4F colloquium 2025

**PHYSICS  
FOR  
FUTURE**

## Report of Contributions

Contribution ID: 15

Type: **not specified**

# Decoherence-Enhanced Effects in Open Quantum Systems

*Tuesday 27 May 2025 13:15 (15 minutes)*

**Presenter:** KAWA, Karol (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 16

Type: **not specified**

# SMART Heusler nanowires for sensing and actuation

*Tuesday 27 May 2025 13:30 (15 minutes)*

**Presenter:** VARGA, Michal (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 17

Type: **not specified**

## **A 2-Dimensional Route to Molecular Magnets in Hybrid Device Interface**

*Tuesday 27 May 2025 13:45 (15 minutes)*

**Presenter:** Dr BHATTACHARYA, Shatabda (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: **18**

Type: **not specified**

# **Resolving Carrier Dynamics In Functionalized MXenes**

*Tuesday 27 May 2025 14:00 (15 minutes)*

**Presenter:** TIWARI, Kunal (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: **19**

Type: **not specified**

## **Molecular Optoelectronics on Ferroelectric Substrates**

*Tuesday 27 May 2025 14:15 (15 minutes)*

**Presenter:** MAL, Indranil (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 20

Type: **not specified**

# Unlocking Altermagnetic Magnons through Electrical and Optical Methods

*Tuesday 27 May 2025 14:30 (15 minutes)*

**Presenter:** LEIVISKÄ, Miina (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 21

Type: **not specified**

# **Engineering Atomic Size Mismatch in High-Entropy Garnets and Perovskites: A Novel Pathway to Enhance Functional Properties**

*Tuesday 27 May 2025 15:00 (15 minutes)*

**Presenter:** BARTOSIEWICZ, Karol (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 22

Type: **not specified**

# High-Quality Stable Perovskite Quantum Dots Inks for Large Area Solar Cells

*Tuesday 27 May 2025 15:15 (15 minutes)*

**Presenter:** KHAN, Jahangeer (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 23

Type: **not specified**

## Development of Serial Precession Electron Diffraction

*Tuesday 27 May 2025 15:30 (15 minutes)*

**Presenter:** TCHON, Daniel (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 24

Type: **not specified**

## **Optical creation and Electrical manipulation of non-trivial Magnetic Textures**

*Tuesday 27 May 2025 15:45 (15 minutes)*

**Presenter:** GHOSH, Sumit (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 25

Type: **not specified**

## **Investigation of spatially resolved phase information and chemical bonding of mechanically deformed molecular crystals using electron diffraction**

*Tuesday 27 May 2025 16:00 (15 minutes)*

**Presenter:** DEY, Somnath (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 26

Type: **not specified**

## **Development of hetero atom-doped Porous Carbon structures for Energy Storage Applications**

*Tuesday 27 May 2025 16:15 (15 minutes)*

**Presenter:** RANJITHKUMAR, Raju (FZU)

**Session Classification:** Presentations of fellows from the Division of Solid State Physics and Condensed Matter Physics

Contribution ID: 27

Type: **not specified**

## **Towards Precision Electroweak Measurements with Advanced Electron Performance in ATLAS**

*Wednesday 28 May 2025 09:30 (15 minutes)*

**Presenter:** NECHANSKÝ, Filip (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 28

Type: **not specified**

## Parton Exploration at Asymptotic Kinetics in Nuclei

*Wednesday 28 May 2025 09:45 (15 minutes)*

**Presenter:** ADHYA, Souvik Priyam (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 29

Type: **not specified**

## **Development of the Next Generation Silicon Sensors for the LHCb experiment**

*Wednesday 28 May 2025 10:00 (15 minutes)*

**Presenter:** ŠVIHRA, Peter (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: **30**

Type: **not specified**

## **Improvement of Science Case of High-elevation Gamma-ray Observatories using SST-1M Telescopes**

*Wednesday 28 May 2025 10:15 (15 minutes)*

**Presenter:** ČECHVALA, Patrik (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 31

Type: **not specified**

# Unraveling the Nature of Quasi-Periodic Eruptions

*Wednesday 28 May 2025 10:45 (15 minutes)*

**Presenter:** JANKOVIĆ, Taj (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 32

Type: **not specified**

# **Supercomputers against quantum gravity: loop-corrected particle spectra for any tensor Lagrangian**

*Wednesday 28 May 2025 11:00 (15 minutes)*

**Presenter:** BARKER, William (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 33

Type: **not specified**

## Two-Point amplitudes and Massive States in Superstring Theories

*Wednesday 28 May 2025 11:15 (15 minutes)*

**Presenter:** KASHYAP, Sitender (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 34

Type: **not specified**

## Beyond "Entanglement Builds Geometry"

*Wednesday 28 May 2025 11:30 (15 minutes)*

**Presenter:** NORTHE, Christian (FZU)

**Session Classification:** Presentations of fellows from the Division of Elementary Particle Physics

Contribution ID: 35

Type: **not specified**

## **Metal Organic Frameworks - based SERS for Water Pollution Monitoring**

*Thursday 29 May 2025 09:30 (15 minutes)*

**Presenter:** ASOKAN, Prasanth (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines

Contribution ID: 36

Type: **not specified**

## **Non-invasive plasma diagnostics for low temperature deposition of VO<sub>2</sub>-based thin film by magnetron sputtering**

*Thursday 29 May 2025 09:45 (15 minutes)*

**Presenter:** LI, Xiao (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines

Contribution ID: 37

Type: **not specified**

## **Refined ablation yield and nanoparticle synthesis by temporary and spatially shaped laser beam**

*Thursday 29 May 2025 10:00 (15 minutes)*

**Presenter:** BÉRARD, Rémi (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines

Contribution ID: 38

Type: **not specified**

## **Tuning Laser Produced Colliding Plasmas as Efficient Sources of Light and Particles**

*Thursday 29 May 2025 10:45 (15 minutes)*

**Presenter:** BEYENE, Girum (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines

Contribution ID: 39

Type: **not specified**

## **Fabrication of high performance transparent plasmonic pn junction by pulsed laser deposition**

*Thursday 29 May 2025 11:00 (15 minutes)*

**Presenter:** ABBASI, Shahab Ahmed (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines

Contribution ID: 40

Type: **not specified**

## **Development of Fe-based medium entropy alloy using laser material processing for cryogenic engine application**

*Thursday 29 May 2025 11:15 (15 minutes)*

**Presenter:** KUMAR, Himanshu (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines

Contribution ID: 41

Type: **not specified**

## **Study of stray radiation at a laser-driven ion beamline**

*Thursday 29 May 2025 11:30 (15 minutes)*

**Presenter:** LEFEBVRE, Helena (FZU)

**Session Classification:** Presentations of fellows from the Divisions of Optics, HiLASE, and ELI Beamlines