

Relativistic Electron Beam Dynamics in Crystals and Related Electrodynamic Processes

Report of Contributions

Contribution ID: 2

Type: **not specified**

Introduction to Workshop & Welcome

Monday 8 December 2025 15:00 (15 minutes)

Presenter: KUBE, Gero (DESY (MDI))

Session Classification: Monday Session

Contribution ID: 3

Type: **not specified**

X-ray transition radiation by multi-GeV electrons in a thin target placed in an external magnetic field (theoretical studies)

Monday 8 December 2025 15:15 (15 minutes)

Presenter: TROFYMENKO, Sergii (KIPT)

Session Classification: Monday Session

Contribution ID: 4

Type: **not specified**

Observation of Transition and Parametric X-Ray Radiation from a Relativistic Electron Beam in a Stack of Silicon Crystal Plates

Monday 8 December 2025 15:30 (30 minutes)

Presenter: CHEREPENNIKOV, Yury (INFN Laboratori Nazionali di Frascati)

Session Classification: Monday Session

Contribution ID: 5

Type: **not specified**

Accurate account of screening in X-ray characteristic radiation. Moseley law and its extension to individual term energies

Monday 8 December 2025 16:00 (30 minutes)

Presenter: BONDARENCO, Miccola (KIPT)

Session Classification: Monday Session

Contribution ID: 6

Type: **not specified**

Research and Development at the Institute of Applied Problems of Physics, NAS RA

Monday 8 December 2025 16:30 (30 minutes)

Presenter: KOCHARYAN, Vahan (Institute of Applied Problems of Physics (NAS), Yerevan)

Session Classification: Monday Session

Contribution ID: 7

Type: **not specified**

Search for resonant transition radiation from a periodic multilayer target with degraded periodicity at the Mainz Microtron MAMI

Monday 8 December 2025 17:00 (30 minutes)

Presenter: STROKOV, Sergey (DESY (MDI))

Session Classification: Monday Session

Contribution ID: 8

Type: **not specified**

General Discussion

Monday 8 December 2025 17:30 (20 minutes)

Session Classification: Monday Session

Contribution ID: 9

Type: **not specified**

Introduction to the DFG Project

Tuesday 9 December 2025 09:00 (15 minutes)

Presenter: FOMIN, Sergii (DESY (MDI) and KIPT)

Session Classification: Tuesday Session

Contribution ID: **10**

Type: **not specified**

Collaboration between DESY and Ukraine

Tuesday 9 December 2025 09:15 (15 minutes)

Presenter: SANDHOP, Martin (DESY (DIB))

Session Classification: Tuesday Session

Contribution ID: 11

Type: **not specified**

Advanced Applications of Bent and Straight Crystals for High-Energy Particle Beams

Tuesday 9 December 2025 09:30 (30 minutes)

Presenter: ROMAGNONI, Marco (University and INFN Ferrara)

Session Classification: Tuesday Session

Contribution ID: **12**

Type: **not specified**

ELBEX Project @ XFEL

Tuesday 9 December 2025 10:00 (15 minutes)

Presenter: STANITZKI, Marcel (DESY (FTX))

Session Classification: Tuesday Session

Contribution ID: 13

Type: **not specified**

Channeling Experiments with Electrons and Positrons at MAMI

Tuesday 9 December 2025 10:15 (30 minutes)

Presenter: LAUTH, Werner (Inst. of Nucl. Phys. (Univ. Mainz))

Session Classification: Tuesday Session

Contribution ID: 14

Type: **not specified**

Optimal parameters for efficient electron deflection at the DESY II accelerator using a bent crystal

Tuesday 9 December 2025 11:15 (30 minutes)

Presenter: KYRYLLIN, Igor (KIPT)

Session Classification: Tuesday Session

Contribution ID: 15

Type: **not specified**

Simulations with Geant4 G4ChannelingFastSimModel and BDSim

Tuesday 9 December 2025 11:45 (30 minutes)

Presenter: SYTOV, Alexei (University and INFN Ferrara)

Session Classification: Tuesday Session

Contribution ID: 16

Type: **not specified**

Ionization energy loss of several-GeV electrons and positrons in straight and bent crystals

Tuesday 9 December 2025 12:15 (30 minutes)

Presenter: TROFYMENKO, Sergii (KIPT)

Session Classification: Tuesday Session

Contribution ID: 17

Type: **not specified**

Calculation of the dechanneling length of electrons in Si crystal using 3D binary collision model

Tuesday 9 December 2025 12:45 (30 minutes)

Presenter: MALOVYTSIA, Maksym (KIPT)

Session Classification: Tuesday Session

Contribution ID: **18**

Type: **not specified**

Quantum effects near the top of the channeling potential barrier

Tuesday 9 December 2025 14:15 (15 minutes)

Presenter: BONDARENKO, Miccola (KIPT)

Session Classification: Tuesday Session

Contribution ID: 19

Type: **not specified**

Beam diagnostics inside a crystal: How to separate coaxial reflections of parametric X-ray radiation and diffracted X-ray transition radiation in space

Tuesday 9 December 2025 14:45 (15 minutes)

Presenter: SHCHAGIN, Alexander (DESY and KIPT)

Session Classification: Tuesday Session

Contribution ID: **20**

Type: **not specified**

Future Lepton Colliders

Tuesday 9 December 2025 15:00 (30 minutes)

Presenter: TITOV, Maxim (CEA Saclay, Irfu)

Session Classification: Tuesday Session

Contribution ID: **21**

Type: **not specified**

SPECIAL SESSION

Tuesday 9 December 2025 16:00 (2 hours)

Session Classification: Tuesday Session

Contribution ID: 22

Type: **not specified**

Differential cross section of fast charged particle scattering by periodic atomic planes in the eikonal approximation

Wednesday 10 December 2025 09:00 (30 minutes)

Presenter: OMELCHEMKO, Viktoriia (KIPT)

Session Classification: Talks

Contribution ID: 23

Type: **not specified**

Coherent optical transition radiation from short electron bunches with non-gaussian charge distribution

Wednesday 10 December 2025 09:30 (30 minutes)

Presenter: POTYLITSYN, Alexander (Institute of Applied Problems of Physics (NAS), Yerevan)

Session Classification: Talks

Contribution ID: 24

Type: **not specified**

Suppression of relativistic electron bremsstrahlung in a crystal due to multiple scattering on atomic chains

Wednesday 10 December 2025 10:00 (30 minutes)

Presenter: FOMIN, Sergii (DESY (MDI) and KIPT)

Session Classification: Talks

Contribution ID: 25

Type: **not specified**

German-Ukrainian Core of Excellence “Plasma-Spin-Energy”

Wednesday 10 December 2025 10:30 (30 minutes)

Presenter: STYERVOYEDOV, Andriy (Max Planck Institute of Microstructure Physics, Hall)

Session Classification: Talks

Contribution ID: 26

Type: **not specified**

General Discussion

Wednesday 10 December 2025 11:30 (1h 30m)

Session Classification: Talks

Contribution ID: 27

Type: **not specified**

Radiation spectra and energy losses of relativistic electrons in straight and bent crystals

Tuesday 9 December 2025 14:30 (15 minutes)

Presenter: TRUTEN, Valentin (KIPT)

Session Classification: Tuesday Session