

Channeling 2016: *Advance Program*

Sunday, 25 September

10:00-12:00 - **Registration at the Reception of the Hotel Acquaviva del Garda**

"CHANNELING PRIMER" at the "Palacreberg" Centre, Sirmione del Garda

14:00 - **S. Dabagov, L. Palumbo, F. Zimmermann** Opening

14:10 - Greetings by the Mayor of Comune di Sirmione del Garda

14:25 - **F. Ferroni**, Greetings by the President of INFN (*Invited*)

14:40 - **F. Zimmermann**, ... from LHC to FCC... (*Invited*)

15:10 - **G. Dattoli**, Undulator and Free Electron Laser Radiation for Fundamental Physics Research (*Invited*)

15:50 - **J. Remillieux & S. Dabagov**, Channeling of Beams and Radiations. 50..40..30 Years History (*Invited*)

16:20 - **N. Kalashnikov**, MEPhI: from University Basics to Advanced Technologies (*Invited*)

16:50 - **S. Kuizheva** Greetings by MSTU (Adygeya, RF)

18:00-19:00 - **Welcome Party at the Platea "Palacreberg"**

Monday, 26 September - Hotel Acquaviva

S1: Channeling & Radiations in Crystals

Session 1.1 Chair: S. Dabagov

9:00-9:30 **V. Baryshevsky**

The phenomena of spin rotation and depolarization of high-energy particles in crystals at Hadron Collider (LHC) and Future Circular Collider (FCC) energies and the possibility to measure the anomalous magnetic moments of short-lived particles (charm and beauty baryons) and quadrupole moment of Omega-hyperon (*Invited*)

9:30-9:45 **X. Artru**

Correlations in thermal vibrations of crystal atoms. Effect on bremsstrahlung and dechanneling

9:45-10:00 **V. Tikhomirov**

Quantitative theory of channeling particle diffusion in transverse energy and direct evaluation of dechanneling length

10:00-10:15 **V. Berec**

Superposition of waves in interference field and channeling radiation

10:15-10:30 **S. Shulga**

Quantum and classical effects in scattering of fast electrons by the atomic planes of ultrathin crystal

10:30-10:45 **T. Tukhfatullin**

First observation of scattering of sub-GeV electrons in ultra-thin Si crystal at planar alignment and relevance to crystal-assisted rainbow scattering

10:45-11:00 **N. Maksyuta**

Channeling and quasi-characteristic radiation of the charged particles in the charged axes of the ionic crystals with a zinc blende structure

Coffee break (20 min)

S1: Channeling & Radiations in Crystals

Session 1.2 Chair: F. Zimmermann

11:20-11:50 **A. Potylitsyn**

Effects of spatial coherency in coherent polarization radiation (transition radiation, Cherenkov radiation, parametric X-radiation) (*Invited*)

11:50-12:05 **B. Azadegan**

Non-dipolarity of channeling radiation at GeV beam energies

- 12:05-12:20 **A. Lobko**
On the influence of the PWO crystal structure on the CMS ECAL performance
- 12:20-12:35 **P. Piot**
Development of a compact laser-free accelerator-driven X-ray source based on channeling radiation
- 12:35-12:50 **N. Kalashnikov**
Stimulated resonance radiation of channeling particles
- 12:50-13:05 **G. Vergunova**
Model of the indirect compression of targets under conditions at an energy of 1.5 MJ

Lunch break (1 h 25 min)

S2: Channeling & Radiations in Various Fields
Session 2.1 Chair: A. Potylitsyn

- 14:30-15:00 **D. Dauvergne**
Proton and light ion deflection at medium energies with planar bent crystals (*Invited*)
- 15:00-15:15 **S. Trofymenko**
On the measurement of transition radiation characteristics in the pre-wave zone with the use of restricted parabolic mirror
- 15:15-15:30 **E. Irribarra**
Parametric X-ray radiation in the backward geometry under interaction of relativistic electrons with crystalline and polycrystalline structures
- 15:30-15:45 **V. Syshchenko**
Radiation of non-relativistic particle on a conducting sphere and a string of spheres
- 15:45-16:00 **G. Naumenko**
Cherenkov radiation from the target with predetermined dielectric properties produced using 3D-printer
- 16:00-16:15 **S. Galyamin**
Radiation from a wakefield dielectric structure with open end
- 16:15-16:30 **A. Popova**
Photoelectric polarization and quantum-chemical data about electrochemical films formed in perchlorate alcohol solutions

Coffee break (20 min)

S2: Channeling & Radiations in Various Fields

Session 2.2 **Chair: N. Shulga**

- 16:50-17:20 **A. Tishchenko**
Polarization radiation in periodic structures as instrument for hadrons identification in TeV energy range (*Invited*)
- 17:20-17:35 **A. Saharian**
Smith-Purcell radiation from a cylindrical grating
- 17:35-17:50 **D. Sergeeva**
Smith-Purcell radiation from 2D photon crystal
- 17:50-18:05 **A. Kubankin**
Parametric X-ray radiation in the backward geometry under interaction of relativistic electrons with crystals
- 18:05-18:20 **A. Kotanjyan**
Radiation from a charge rotating inside a cylindrical grating
- 18:20-18:35 **E. Gurnevich**
Cherenkov and parametric (quasi-Cherenkov) radiations produced by a relativistic charged particle moving through crystals built from metallic wires

PS: Poster Session

Session PS1 **Chair: A. Liedl**

- PS1-01 S. Abdrashitov, O. Bogdanov, S. Dabagov, Yu. Pivovarov, T. Tukhfatullin - Angular momentum of radiation from relativistic electrons channeled in Si and W crystals
- PS1-02 A. Babaev, A. Gogolev, A. Potylitsyn - Coherent parametric X-radiation: conditions of observation
- PS1-03 E. Babakhanyan - Above-barrier reflection and degenerate states of energy band spectrum at planar channeling of electrons and positrons in crystals
- PS1-04 E. Bagli, V. Guidi, A. Mazzolari, L. Bandiera, G. Germogli, A. Sytov, D. De Salvador, N. Argiolas, M. Bazzan, A. Carnera, G. Maggioni, M. Prest, A. Berra, D. Bolognini, D. Liettie, E. Vallazza - Experimental study of coherent interaction at high-energy in the presence of crystalline defects
- PS1-05 Yu. Kunashenko - Coherent production of electron-positron pairs in channeled state by photon
- PS1-06 V. Ganenko, D. Burdeyniy, V. Truten, N. Shulga, K. Fissum, J. Brudvik, K. Hansen, L. Isaksson, K. Livingston, M. Lundin, B. Nilsson, B. Schroder - Radiation spectra of electrons with the energy 200 MeV in diamond crystal at axial orientation

- PS1-07 Y. Takabayashi, K. Korotchenko, Yu. Pivovarov, T. Tikhfatullin - Angular distributions of parametric X-ray radiation from a diamond crystal
- PS1-08 L. Gevorgian - Undulator radiation and energy losses of a channeled positron in the crystalline wiggler
- PS1-09 N. Kalashnikov, A. Olchak - Axial channeling at low energies: the two-dimensional atom with customizable potential
- PS1-10 D. Badreeva, N. Kalashnikov - Raman scattering of photons by the channeling electrons
- PS1-11 V. Ambartsumov, N. Kalashnikov - Induced resonance evolution of the channeling electron beam
- PS1-12 N. Kalashnikov, A. Olchak - Axial channeling at low energies: thin structure of quantum states and electromagnetic radiation
- PS1-13 N. Kalashnikov, A. Olchak - Resonance interaction of laser radiation with thin structure of axial channeling particles energy levels
- PS1-14 Yu. Eykhorn, S. Dabagov, K. Korotchenko - PXR: estimations for the maxima intensity and temperature dependence
- PS1-15 S. Dabagov, K. Korotchenko - Z-dependence of PXR for light and heavy ions
- PS1-16 Yu. Eykhorn, K. Korotchenko, Yu. Kunashenko, Yu. Pivovarov - Electron radiation due to reflection by the crystallographic planes of crystal
- PS1-17 I. Feranchuk, N. San, A. Lobko - Quantum effects for particles channeling in a bent crystal
- PS1-18 N. Maksyuta, V. Vysotskii, S. Dabagov - The formation of protonium atoms at channeling of antiprotons in a hydride Lithium crystal
- PS1-19 I. Kirillin, N. Shul'ga, L. Bandiera, V. Guidi, A. Mazzolari - Influence of incoherent scattering on stochastic deflection of high-energy negative particle beams in bent crystals
- PS1-20 I. Kirillin, N. Shul'ga - Dependence of probability of close collisions of high-energy charged particles in a bent crystal from the orientation of the crystal
- PS1-21 A. Bagulya, O. Dalkarov, M. Negodaev, Yu. Pivovarov, A. Rusetskii, T. Tikhfatullin - Orientation effect in $d(d,n)^3\text{He}$ reaction initiated by 20 keV deuterons at channeling in textured CVD – diamond target
- PS1-22 T. Tikhfatullin, Yu. Pivovarov, G. Dudkin, S. Kuznetsov, Yu. Eikhorn - Flux peaking of 7-12 keV deuterons at channelling in TiD_2 crystal and enhancement of neutrons yield in $d(d,n)^3\text{He}$ reaction
- PS1-23 A. Rasulov - Developing parallel application on a cluster of personal computers
- PS1-24 A. Potylitsyn, A. Kolchuzhkin, S. Stokov - Characteristics of radiation in "light" and in conventional undulators. Classical and quantum approaches

PS1-25 V. Kaplin, V.Ya. Epp, Ju.G. Janz - Multicrystal microundulator

PS1-26 A. Sabirov - Quantum dynamics of positrons in the channeling in carbon nanotubes

PS1-27 O. Bogdanov, S. Dabagov, Yu. Pivovarov - Specific features of photonuclear reactions yield induced by channeling radiation from relativistic electrons

Tuesday, 27 September - Hotel Acquaviva

S2: Channeling & Radiations in Various Fields

Session 2.3 **Chair: H. Backe**

9:00-9:30 **P. Piot**

Plans for X- and γ -ray production at the Fermilab Accelerator Technology & Science Facility (*Invited*)

9:30-9:45 **X. Artru**

Derivation of the classical radiation amplitude from stimulated emission

9:45-10:00 **M. Bondarenco**

Types of interference in highly non-dipole radiation spectra

10:00-10:15 **A. Hartin**

Towards detection of strong field, Volkov resonances in electron-laser interactions

10:15-10:30 **V. Katkov**

Polarization tensor of a photon in an electric field

10:30-10:45 **E. Bulyak**

Kinetics of relativistic electrons passing through quasi-periodic fields

10:45-11:00 **A. Babaev**

Muon beam channeling in laser standing wave

Coffee break (20 min)

S3: X-Rays/Neutrons/Atoms/Ions Channeling

Session 3.1 **Chair: E. Frolov**

11:20-11:50 **K. Tsuji**

XRF imaging based on polycapillary optics (*Invited*)

11:50-12:05 **D. Hampai**

2D-3D μ XRF elemental mapping reconstruction on archeological samples

12:05-12:20 **A. Shchagin**

X-ray radiation for beam diagnostics

12:20-12:35 **A. Marcelli**

Focusing properties of X-ray radiation channeling at the exit of a MCP

12:35-12:50 **M. Bremekamp**

Characterization of non-gaussian beam profiles of polycapillary lenses

12:50-13:05 **Y. Hayakawa**
Simultaneous K-edge subtraction tomography for Strontium tracer using parametric X-ray radiation

Lunch break (1 h 25 min)

S1: *Channeling & Radiations in Crystals*
Session 1.3 Chair: R. Chehab

14:30-15:00 **M. Breese**
A review of transmission channeling experiments using focused MeV protons through thin crystals (*Invited*)

15:00-15:15 **K. Gevorgyan**
X-rays monochromatic radiation of the bunch of positrons channeled in nanotubes

15:15-15:30 **S. Blazhevich**
Diffracted transition radiation of a beam of relativistic electrons in a thin single-crystal plate

15:30-15:45 **I. Vnukov**
Ratio of the contributions real and virtual photons diffraction in thin perfect crystals. Comparison of calculation and experiment

15:45-16:00 **R. Nazhmudinov**
Evolution of the Landau spectral peak produced by 50 GeV protons in Si detector with smoothly variable thickness

16:00-16:15 **G. Filippov**
Spontaneous breaking of symmetry in problem of spatial localization of particle moving in a solid

16:15-16:30 **M. Barabanov**
Perspective study of charmonium, exotics and baryons with charm and strangeness (*cancelled*)

Coffee break (20 min)

S1: *Channeling & Radiations in Crystals*
Session 1.4 Chair: A. Marcelli

16:50-17:20 **N. Shulga**
Coherent processes and channeling at high energy in thin crystals (*Invited*)

- 17:20-17:35 **V. Guidi**
Observation of independence of the nuclear de-channeling length on the particle charge sign
- 17:35-17:50 **R. Chehab**
Optimization of an hybrid positron source using channeling
- 17:50-18:05 **A. Shchagin**
Textured polycrystal for increasing of positrons production
- 18:05-18:20 **Yu. Eykhorn**
Depth oscillations of electronuclear reactions initiated by relativistic planar channelled electrons: quantum versus classical calculations
- 18:20-18:35 **E. Mazur**
Manifestation of the band structure in the photon emission spectrum of the fast above-barrier oriented particle

PS: *Poster Session*

Session PS2 Chair: L. Marchitto

- PS2-01 S. Anishchenko, V. Baryshevsky - Statistical fluctuations of radiation in quasi-Cherenkov generators
- PS2-02 V. Bleko, A. Konkov, V. Soboleva, G. Naumenko - Application of dielectric fibers for the electron beam diagnostic
- PS2-03 D. Danilova, A. Tishchenko, M. Strikhanov - Effects of correlation in transition radiation of super-short electron bunches
- PS2-04 S. Galyamin, A. Tyukhtin, E. Belonogaya - Dielectric concentrator for cherenkov radiation: sensitivity and field near the focus
- PS2-05 S. Galyamin, A. Peshkov, A. Tyukhtin - Radiation of a moving charge at the interface between vacuum and chiral isotropic medium
- PS2-06 H. Gevorgyan, L. Gevorgian - The coherent radiation characteristics of microbunched electron bunch formed in the stack of two plates
- PS2-07 S. Uglov, A. Kubankin, A. Vukolov - Angular distributions and spectra of VUV radiation generated by 5.7 MeV electrons in multilayer
- PS2-08 V. Malyshevsky - Transition radiation of multicharged ions in a thin plate
- PS2-09 V. Alexeyev, V. Astapenko, A. Eliseyev, E. Irribarra, V. Karpov, I. Kishin, A. Klyuyev, Yu. Krotov, A. Kubankin, R. Nazhmudinov, Al-Omari, S. Sakhno - Parametric X-ray radiation from powders with different grain size
- PS2-10 S. Blazhevich, R. Zagorodnyuk, S. Nemtsev, A. Noskov - Coherent X-ray radiation generated by divergent beam of relativistic electrons in composite structure "amorphous layer - vacuum - single crystal"

- PS2-11 A. Ponomarenko, A. Tishchenko, M. Strikhanov - THz polarization radiation from electrons passing corrugated dielectrical tube under noncentral propagation
- PS2-12 A. Potylitsyn , G. Kube - Coherent transition radiation from a train of tilted “pancake-like” ultrashort electron bunches
- PS2-13 L. Gevorgian, A. Shamamian - The optimal model of crystalline undulator with intervals
- PS2-14 A. Shchagin - Quantum expression for frequency of coherent radiation of charged particle moving through a periodic medium
- PS2-15 A. Shchagin - Charge-exchange radiation
- PS2-16 S. Boichenko, V. Tlyachev - Angular distribution of the radiation of an electron moving along the arc of a circle
- PS2-17 S. Trofymenko, N. Shul’ga - The influence of transition radiation upon electron-positron pair ionization loss
- PS2-18 Yu. Goponov, M.A. Sidnin, K. Sumitani, Y. Takabayashi, I. Vnukov - About possibility of high energy electron beam parameters estimation by means of radiation from periodical structures
- PS2-19 V. Vysotskii, A. Kornilova, A. Vasilenko - The prediction, observation and study of long-distant undamped thermal waves generated in pulse radiative processes
- PS2-20 V. Baryshevsky, A. Gurinovich, E. Gurnevich, P. Molchanov - VFEL-based THz radiation sources with resonators formed by metallic wires
- PS2-21 V. Ivanyan, R. Avagyan, R. Avetisyan, I. Kerobyan - GEANT4 Simulations of the Low Energy Neutron Beam Formation
- PS2-22 G. Filippov, I. Lysova - Polarization and radiation generated by moving charge in dielectric tube
- PS2-23 V. Kocharyan, A. Kiziridi, A. Movsisyan - Dynamical diffraction of thermal neutrons under influence of temperature gradient
- PS2-24 A. Kubankin, A. Klyuyev, A. Oleinik, A. Shchagin, K. Vokhmyanina, P. Karataev, V. Ionidi, A. Chepurnov, M. Gromov - Application of tungsten tips for neutron sources development
- PS2-25 A. Aramyan, Art. Mkrtchyan, L. Grigoryan, H. Khachatryan, S. Bilen, M. Parrot, A. Sargsyan - Shock wave induced MHz «glow» of atmosphere
- PS2-26 A. Dik, S. Dabagov, E. Frolov - Cooling of ultrarelativistic β and μ particles in laser channels
- PS2-27 A. Baryshnikov, S. Dabagov - Simulation of X-rays passing through the capillary structure
- PS2-28 S. Abdrashitov, O. Bogdanov, S. Dabagov, Yu. Pivovarov, T. Tukhfatullin - Total yield and spectra of positrons produced by channeling radiation from 0.1–1.5 GeV electrons

Wednesday,
28 September - *Hotel Acquaviva*

S4: Charged Beams Shaping. Crystal Collimation
Session 4.1 Chair: W. Scandale

- 9:00-9:30 **U. Wienands**
Channeling of electrons and positrons at SLAC (*Invited*)
- 9:30-9:45 **Yu. Chesnokov**
Study of crystal extraction of circulating beam from the U-70 at injection energy
- 9:45-10:00 **L. Bandiera**
Relaxation of axially 400 GeV/c protons to planar channeling in a bent crystal
- 10:00-10:15 **V. Maisheev**
New beam optics on the basis of bent single crystals
- 10:15-10:30 **E. Tsyganov**
Cold nuclear fusion development
- 10:30-10:45 **S. Bartalucci**
Polarized fuel for controlled thermonuclear fusion
- 10:45-11:00 **M. Negodaev**
The interaction of the ion and X-ray beams with energies less than 30 keV with deuterated crystal structures

Coffee break (20 min)

S4: Charged Beams Shaping. Crystal Collimation
Session 4.2 Chair: G. Cavoto

- 11:20-11:50 **W. Scandale**
Observation of channeling for 6500 GeV/c protons in the crystal assisted collimation setup for LHC (*Invited*)
- 11:50-12:05 **A. Kovalenko**
Crystal assisted extraction of proton beam from the new FCC injector synchrotron installed within the SPS tunnel (*cancelled*)
- 12:05-12:20 **A. Mazzolari**
Bent crystals for beam extraction from the LHC
- 12:20-12:35 **A. Taratin**
Measurements of multiple scattering of high energy protons in bent silicon crystals

12:35-12:50 **D. De Salvador**

Steering efficiency and dechanneling of a Sub-GeV electron beam as a function of curvature and energy

12:50-13:05 **G. Germogli**

State-of-the-art bent silicon crystals for high-energy charged particle beam collimation

Excursion

Thursday, 29 September - Hotel Acquaviva

W1 mini-workshop: *Simulation Techniques for Particle Dynamics in Ordered Structures*

Session W1.1 Chair: V. Guidi

9:00-9:30 **V. Solovyov**

Simulation of channeling and radiation of ultra-relativistic projectiles in linear, bent and periodically bent crystals by means of MBN Explorer (*Invited*)

9:30-9:45 **L. Bandiera**

A method for calculation of emitted radiation in straight and bent crystals based on the Baier-Katkov quasiclassical formula

9:45-10:00 **T. Tukhfatullin**

BCM-2.0 – the new version of computer code “Basic Channelling with Mathematica©”

10:00-10:15 **E. Frolov**

Influence of space charge effect on dynamics of charged particles trapped in laser channels

10:15-10:30 **T. Vaughan**

Electromagnetic simulations of a metamaterial target for applications in particle accelerators

10:30-10:45 **D. Sorokin**

Modeling of the channeling effect for deuterons in a TiD₂ crystal

10:45-11:00 **A. Savchenko**

Geant4 simulations of the full-size calorimeter for muon G-2 experiment

Coffee break (20 min)

W1 mini-workshop: *Simulation Techniques for Particle Dynamics in Ordered Structures*

Session W1.1 Chair: M. Breese

11:20-11:50 **M. Asai, E. Bagli**

The GECO project (*Invited*)

11:50-12:05 **A. Sytov**

Ab-initio Monte Carlo simulations of relativistic particle scattering and radiation in oriented crystals

12:05-12:20 **S. Sarros**

Channeling of protons in radially compressed chiral carbon nanotubes

- 12:20-12:35 **J. Fernandez**
The X-ray characteristic line in the framework of the Boltzmann transport equation
- 12:35-12:50 **L. Marchitto**
Quantitative measurements of fuel spatial densities from GDI sprays through optical and x-ray based techniques
- 12:50-13:05 **G. Paternò**
A collimation system for ELI-NP gamma beam system. Design and simulation of performance

Lunch break (1 h 25 min)

S5: Novel sources: FEL/Laser/Plasma Channels
Session 5.1 Chair: L. Serafini

- 14:30-15:00 **V. Petrillo**
Advanced topics in the physics of Compton back-scattering (*Invited*)
- 15:00-15:30 **F. Zomer**
The ThomX X-ray source (*Invited*)
- 15:30-15:45 **F. Lindner**
Swift ion bunch acceleration by high power laser pulses
- 15:45-16:00 **D. Giulietti**
Laser-plasma energetic particle production for aneutronic nuclear fusion experiments
- 16:00-16:15 **M. Galimberti**
Short pulse diagnostics improvements in the Vulcan laser system
- 16:15-16:30 **V. Zvorykin**
Nonlinear optics of the UV TW laser beam

Coffee break (20 min)

S5: Novel sources: FEL/Laser/Plasma Channels
Session 5.2 Chair: D. Giulietti

- 16:50-17:20 **M. Ferrario**
SPARC LAB recent results and future perspectives (*Invited*)
- 17:20-17:35 **C. Vaccarezza**
The SPARC LAB Thomson source upgrade

- 17:35-17:50 **T. Takahashi**
Development of optical resonant cavities for laser-Compton scattering
- 17:50-18:05 **I. Drebot**
Observation of elastic photon-photon scattering events using collider based on Compton gamma sources
- 18:05-18:20 **V. Shpakov**
Plasma-discharge undulator
- 18:20-18:35 **A. Curcio**
Betatron radiation from electrons accelerated in laser-produced plasma channels
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PS: *Poster Session*

Session PS3 Chair: D. Hampai

- PS3-01 Yu. Cherepennikov, I. Miloichikova, D. Hampai, S. Dabagov, A. Gogoleva - The polycapillary optics application for double diffraction line intensity increase
- PS3-02 E. Dik, S. Dabagov - On charged particles propagation through microcapillaries
- PS3-03 A. Stepanov, G. Filippov - Channeling of low energy atomic particles in carbon nanotubes with heterojunctions
- PS3-04 M. Iliescu, C. Curceanu - X-ray optics for exotic atoms experiments
- PS3-05 V. Kocharyan - Hard X-rays with controlled parameters
- PS3-06 E. Kurnikov, S. Dabagov - Computer simulations of particle beams motion into capillaries
- PS3-07 A. Liedl, S. Dabagov, D. Hampai, C. Polese - On transverse X beam profile transmitted by polycapillary semi lens
- PS3-08 A. Mazzolari, V. Bellucci, R. Camattari, P. Cardarelli, G. Di Domenico, M. Gambaccini, V. Guidi, M. Marziani, G. Paternò, A. Taibi, G. Baldazzi, N. Lanconelli, M. Morigi, E. Peccenini, R. Spighi - LAUe-PEak Radiotherapy (LAUPER)
- PS3-09 S. Stuchebrov, I. Miloichikova, Yu. Cherepennikov, O. Bender, D. Hampai c, S. Dabagov - X-ray investigation of the needle cellular structure by polycapillary optics and lithium fluoride detectors
- PS3-10 E. Bagli, V. Guidi, A. Mazzolari - Measurements of the high-efficiency deflection of 400 GeV/c protons due to channeling along the <110> axis of a bent silicon crystal
- PS3-11 O. Fomin, A. Stocchi - Crystal parameters optimization for enhancement of deflection efficiency of fast charged particles
- PS3-12 V. Vorobev, A. Tyukhtin, S. Galyamin - Non-divergent surface waves from charged particle bunch moving along semi-infinite wire planar structure
- PS3-13 G. Kovalev - Spiral scattering of relativistic particles in a bent crystal

- PS3-14 G. Kovalev - Dynamics of the relativistic particles and conformal mapping of the crystal
- PS3-15 G. Kovalev - High energy microbeams and focusing limits of channeling particles
- PS3-16 K. Vokhmyanina, A. Kaplin, A. Kubankin, V. Sotnikova , T. Nikulicheva , A. Chepurnov
- Some features of grazing interaction of 10 keV electrons with dielectric surfaces
- PS3-17 V. Maisheev - Quantitative theory of dechanneling in bent and straight single crystals
- PS3-18 A. Sytov , V. Guidi, V. Tikhomirov, E. Bagli, L. Bandiera, G. Germogli, A. Mazzolari -
Quasichanneling oscillations in the deflection angle distribution in a bent crystal
- PS3-19 A. Sytov, A. Lobko, V. Tikhomirov - Double crystal-based collimation system for high-
energy accelerators
- PS3-20 C. Curatolo, F. Broggi, L. Serafini - Hadron Photon Colliders as photo-cathode sources
of low emittance muon beams
- PS3-21 M. Galimberti, D. Shepherd, B. Parry, C. Hernandez-Gomez - Fast beam pointing sta-
bilization for high power laser system
- PS3-22 F. Nguyen, G. Dattoli - A proposal for Axion-like particle search with free electron lasers
- PS3-23 P. Piot, A. Halavanau, B. Jacobson, A. Khizhanok, D. Mihalcea, A. Murokh, J. Ruan -
Design of a Watt-level gamma-ray source based on high-repetition-rate inverse Compton
scattering
- PS3-24 V. Vysotsky, M. Vysotsky - Features of Cherenkov radiation at channeling
- PS3-25 V. Soboleva, G. Naumenko, V. Bleko, A. Potylitsyn - Coherent radiation of relativistic
electrons in metamaterials based on the SRR/wire-grid unit cell in millimeter wavelength
range
- PS3-26 K. Kruchinin, A. Aryshev, M. Bergamaschi, P. Karataev, R. Kieffer, T. Lefevre, S.
Mazzoni, N. Terunuma - Micron scale electron beam size measurements using optical
transition radiation

20:00 **Social Dinner - Restaurant "Abbraccio"**

Friday, 30 September - Hotel Acquaviva

W2 mini-workshop: AGTaX: Advanced Generation of THz and X-ray beams
/8th edition/

Session W2.1. Chair: A. Tishchenko

9:00-9:30 **A. Aryshev**

Advanced Generation of THz and X-ray beams using compact electron accelerator (*Invited*)

9:30-9:45 **H. Harrison**

Polarization of Smith-Purcell radiation and its application to longitudinal beam diagnostics

9:45-10:00 **A. Lancaster**

Preliminary results for Smith-Purcell radiation from a skewed planar grating using the surface current model

10:00-10:15 **K. Lekomtsev**

Experimental Investigations of THz radiation from composite corrugated capillary with reflector

10:15-10:30 **M. Shevelev**

Influence of a space charge effect in a femtosecond electron beam on coherent transition radiation spectrum

10:30-10:45 **A. Aryshev**

Experimental study of coherent Smith-Purcell radiation monochromaticity

10:45-11:00 **G. Naumenko**

Coherent grating transition radiation in sub-THz wavelength range

Coffee break (20 min)

W2 mini-workshop: AGTaX: Advanced Generation of THz and X-ray beams
/8th edition/

Session W2.2. Chair: I. Konoplev

11:20-11:50 **A. Phelps**

Periodic structures manufactured by 3D printing for electron beam excitation of coherent sub-TeraHertz radiation (*Invited*)

11:50-12:05 **L. Yan**

Tunable high-peak-current electron bunch train production and its application in THz radiation

12:05-12:20 **Y. Du**
Recently research progress on Thomson scattering X-ray source at Tsinghua University

12:20-12:35 **P. Karataev**
Investigation of super-radiant Smith-Purcell radiation from double grating and DC beam

12:35-13:05 **Channeling 2016: Closing**

Lunch break (1 h 25 min)

**W2 mini-workshop: *AGTaX: Advanced Generation of THz and X-ray beams*
/8th edition/**

Session W2.3. Chair: W. Wagner

14:30-15:00 **S. Ghosh**
Status of the development of Delhi Light Source (DLS) at IUAC (*Invited*)

15:00-15:15 **I. Konoplev**
Concept of tuneable, high power source of coherent THz radiation

15:15-15:30 **A. Potylitsyn**
Angular distribution of coherent Cherenkov radiation from a tilted bunch passing through a slit in target

15:30-15:45 **T. Lefevre**
Cherenkov diffraction radiation from long dielectric material: an intense source of photons in the NIR-THz range

15:45-16:00 **A. Tishchenko**
Smith-Purcell radiation from a ribbon beam as effective THz source

16:00-16:15 **R. Kieffer**
Optical diffraction radiation experiment at KEK-ATF2

16:15-16:30 **N. Kudryashov**
Generation of plasmons with quantum charged fast oriented particle

Coffee break (20 min)

**W2 mini-workshop: *AGTaX: Advanced Generation of THz and X-ray beams*
/8th edition/**

Session W2.4. Chair: A. Aryshev

16:50-18:00 **AGTaX Announcements, Discussions, Closing**