



# High precision X-ray measurements 2021

## Tuesday, June 8, 2021

### Session: Morning #1 (9:00 AM - 10:20 AM)

-Conveners: Alessandro Scordo

time	[id] title	presenter
9:00 AM	[P2] Introduction from the LNF Director and Organizer	BOSSI, Fabio SCORDO, Alessandro
9:20 AM	[P5] Opening Lecture: Wilhelm Conrad Röntgen –Discovery and first attempts to clarify the physical nature of X-rays	BUSCH, Uwe

### Session: Morning #2 (10:40 AM - 11:40 AM)

-Conveners: Gaetano Campi

time	[id] title	presenter
10:40 AM	[P0] XAS (X-Ray Absorption Spectroscopy) spectroscopy: state of the art and some applications in material science	BENFATTO, Maurizio
11:00 AM	[P3] Precision X-ray spectroscopy of muonic atoms to explore QED under strong electric fields	OKADA, Shinji
11:20 AM	[P1] The EuPRAXIA@SPARC_LAB project and related R&D activities at LNF.	FERRARIO, Massimo

### Session: Morning #3 (12:00 PM - 1:00 PM)

-Conveners: Anna Bergamaschi

time	[id] title	presenter
12:00 PM	[P6] DANAÉ – A direct search for light Dark Matter with DEPFET-RNDR detectors	TREBERSPURG, Wolfgang
12:20 PM	[P1] Dynamical and correlated disorder at nanoscale in complex materials	CAMPI, Gaetano
12:40 PM	[P3] Unique properties of Pyrolytic Graphite for extreme conditions	GRIGORIEVA, Inna

### Session: Afternoon #1 (2:00 PM - 3:00 PM)

-Conveners: Massimo Ferrario

time	[id] title	presenter
2:00 PM	[P0] Silicon Drift Detectors and fast readout electronics for high-rate, high-resolution X-ray measurements	FIORINI, Carlo Ettore
2:20 PM	[P4] Analysis and design of X-ray optical systems applying hierarchical models including partial coherence	SANCHEZ DEL RIO, Manuel
2:40 PM	[P0] Advanced spectroscopy and microscopy studies for chemical elements evaluation by micro-X-ray Fluorescence and polycapillary optics	GUGLIELMOTTI, Valeria

### Session: Afternoon #2 (3:15 PM - 4:15 PM)

**-Conveners: Manuel Sanchez del Rio**

time	[id] title	presenter
3:15 P	[M9] Advanced X-ray Studies @ XlabF	HAMPAL, Dariush
3:35 P	[M8] New multichannel modular detection system based on Silicon Drift Detectors	CIRRINCIONE, Daniela
3:55 P	[M8] Laser-Induced XUV Spectroscopy (LIXS) for High-Precision Lithium Analysis of Energy Materials	QU, Di

**Session: Afternoon #3 (4:30 PM - 5:30 PM)****-Conveners: Peter Predehl**

time	[id] title	presenter
4:30 P	[M7] CdZnTe based detectors for X and gamma ray spectroscopic imaging.	ZAPPETTINI, Andrea
4:50 P	[M1] Testing foundations of Quantum Mechanics in the cosmic silence	PISCICCHIA, Kristian
5:10 P	[M2] Precision X-ray spectroscopy of hadronic atoms - pionic hydrogen challenges and results	MARTON, Johann

# Wednesday, June 9, 2021

## Session: Morning #1 (9:00 AM - 10:20 AM)

-Conveners: Francesco D'Acapito

time	[id] title	presenter
9:00 AM	[M0] Digital spectroscopic improvements in CdZnTe detectors for 2-D and 3-D spectroscopic X-ray and gamma ray imaging.	ABBENE, Leonardo
9:20 AM	[M7] Channeling X-rays for Coherence Measurements	DABAGOV, Sultan
9:40 AM	[M8] Mastering Synchrotron Microbeams for Radiotherapy: effective cancer treatment with remarkable healthy tissue tolerance	ENGELS, Elette
10:00 AM	[M5] Electronic and structural investigation on gold monometallic and bimetallic nanoparticles using x-ray absorption fine structure spectroscopy.	BALERNA, Antonella

## Session: Morning #2 (10:40 AM - 11:40 AM)

-Conveners: Alessandra Gianoncelli

time	[id] title	presenter
10:40 AM	[M6] X-ray Absorption Spectroscopy studies on GeTe based Phase-Change Materials	D'ACAPITO, Francesco
11:00 AM	[M2] SiPMs for real-time X-ray beam monitoring in transmission mode	SERVOLI, Leonello
11:20 AM	[M3] The Advanced Surveyor of Transient Events and Nuclear Astrophysics (ASTENA)	MOITA, Miguel

## Session: Morning #3 (12:00 PM - 1:00 PM)

-Conveners: Sultan Dabagov

time	[id] title	presenter
12:00 PM	[M4] High precision kaonic atoms X-ray measurements at the DAFNE collider: the SIDDHARTA-2 experiment	MILIUCCI, Marco
12:20 PM	[M2] Real-time detection of quantal dopamine release from single cells stimulated by X-ray irradiation	PICOLLO, Federico
12:40 PM	[M3] Probing Electron Properties in ECR Plasmas using X-ray Bremsstrahlung and Fluorescence Emission	MISHRA, Bharat

## Session: Afternoon #1 (2:00 PM - 3:00 PM)

-Conveners: Maurizio Benfatto

time	[id] title	presenter
2:00 PM	[M3] Construction and test of the Gas Pixel Detectors for the IXPE Mission	MANFREDA, Alberto
2:20 PM	[M6] Applications of HAPG for high resolution spectroscopy	MALZER, Wolfgang
2:40 PM	[M1] Local structure and electronic properties of some emerging BiS2-based materials	SAINI, Naurang

## Session: Afternoon #2 (3:15 PM - 4:15 PM)

**-Conveners: Luca Rebuffi**

time	[id]	title	presenter
3:15 P	[M7]	X-ray Grating Interferometry design for the 4D GRAPH-X system	PATERA, Alessandra
3:35 P	[M6]	ARIA – A VUV beamline for EuPRAXIA@SPARC_LAB	VILLA, Fabio
3:55 P	[M]	Advances in hybrid detector development for synchrotrons and XFELs at PSI	BERGAMASCHI, Anna

**Session: Afternoon #3 (4:30 PM - 5:30 PM)****-Conveners: Naurang Saini**

time	[id]	title	presenter
4:30 P	[M]	Optical simulation tools in the OASYS suite and their applications to x-ray optics design	REBUFFI, Luca
4:50 P	[M4]	Energy-Dispersive RIXS	SANCHEZ, Héctor Jorge

# Thursday, June 10, 2021

## Session: Morning #1 (9:00 AM - 10:20 AM)

-Conveners: Shinji Okada

time	[id] title	presenter
9:20 AM	[M9] Compressive signal collection for dynamic XAFS in the home lab	HEMANI, Yousuf
9:40 AM	[M3] High-precision X-ray total scattering measurements using a high-accuracy detector system	KATO, Kenichi
10:00 AM	[M7] Study of multi-pixel scintillator detector configurations for measuring polarized gamma radiation	KOŽULJEVIĆ, Ana Marija

## Session: Morning #2 (10:40 AM - 11:40 AM)

-Conveners: Kenichi Kato

time	[id] title	presenter
10:40 AM	[M1] High sensitivity X-ray phase imaging system based on a Hartmann Wavefront Sensor	BEGANI PROVINCIALI, Ginevra
11:00 AM	[M0] The TRILL project: increasing the technological readiness level of Laue lenses for hard X/soft Gamma-ray astronomy	FERRO, Lisa
11:20 AM	[M5] X-ray micro-tomography as a method to distinguish and classify natural and cultivated pearls	VIGORELLI, Luisa

## Session: Morning #3 (12:00 PM - 1:00 PM)

-Conveners: Johann Marton

time	[id] title	presenter
12:00 PM	[P1] X-ray instrumentation to observe the hot and energetic Universe	PREDEHL, Peter
12:20 PM	[P0] Soft X-ray microscopy techniques at TwinMic - Elettra	ALESSANDRA, Gianoncelli
12:40 PM	[P1] X-ray imaging and space resolved spectroscopy of ECR plasmas in compact magnetic traps	NASELLI, Eugenia

## Session: Afternoon #1 (2:00 PM - 3:00 PM)

-Conveners: Andrea Zappettini

time	[id] title	presenter
2:00 PM	[M9] XSpecra®: an Advanced Technology for Improving Real-Time Inspections on Food Production-Lines	MACERA, Daniele
2:20 PM	[M6] Plasma-generated X-ray pulses: betatron radiation opportunities at EuPRAXIA@SPARC_LAB	STELLATO, Francesco
2:40 PM	[M9] Confocal fluorescence microscopy and confocal Raman microspectroscopy of X-ray irradiated LiF crystals	BONFIGLI, Francesca

## Session: Afternoon #2 (3:15 PM - 4:40 PM)

-Conveners: Héctor Jorge Sanchez

time	[id]	title	presenter
3:15 P	[17]	X-ray spectroscopy of kaonic atoms with TES-based microcalorimeters	HASHIMOTO, Tadashi
3:35 P	[18]	VOXES: a millimetric effective source size HAPG crystals based Von Hamos spectrometer as a tool for extreme precision exotic atom spectroscopy	DE LEO, Veronica
3:55 P	[16]	Mmpxrt - New X-ray tracing code not only for mosaic crystal spectrometers.	Dr ŠMÍD, Michal
4:15 P	[15]	Talk competition winners announcement & closing remarks	SCORDO, Alessandro