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SPARC Topical Workshop 2016

Friday 16 September 2016

Registration in the courtyard of Collegium Maius - (18:30-19:00)

Visit of the Jagiellonian University Museum in Collegium Maius - (19:00-20:00)

Reception at Collegium Maius, Kraków, Jagiellońska 15 Street - (20:00-21:00)

Saturday 17 September 2016

Registration - (08:30-09:00)

SPARC and FAIR - (17 September 09:00-12:30)

- **Conveners:** Warczak, Andrzej (Jagiellonian University, Institute of Physics); Quint, Wolfgang (GSI, Darmstadt)

time	title	presenter
09:00	Welcome: SPARC in Poland (00h15')	WARCZAK, Andrzej (Jagiellonian University, Krakow)
09:15	The SPARC collaboration (00h15')	SCHUCH, Reinhold (Stockholm University)
09:30	Current developments at GSI and FAIR for atomic physics (00h25')	STÖHLKER, Thomas (GSI, Darmstadt)
09:55	COST action proposal "Fundamental Parameters for Interactions of X-rays with Matter" (00h20')	SANTOS, Jose Paulo (FCT, Universidade Nova Lisboa)
10:15	Coffee Break (00h30')	
10:45	Physics case for CRYRING (00h35')	LESTINSKY, Michael (GSI, Darmstadt)
11:20	Trap experiments at HITRAP (00h35')	VOGEL, Manuel (GSI, Darmstadt)
11:55	Recent results from hyperfine spectroscopy experiment at the ESR (00h35')	ULLMANN, Johannes (TU Darmstadt, IKP)

Lunch - (12:30-14:00)

Current Developments - (17 September 14:00-15:50)

- **Conveners:** Pajek, Marek (Institute of Physics, Jan Kochanowski University)

time	title	presenter
14:00	Status of the ESR and future upgrades (00h20')	STECK, Markus (GSI, Darmstadt)
14:20	NuSTAR at HESR (00h25')	AUMANN, Thomas (GSI, Darmstadt)
14:45	Status of APPA-Cave (00h20')	SEVERIN, Daniel (GSI, Darmstadt)
15:05	RCE in Cave-A (00h25')	AZUMA, Toshiyuki (RIKEN AMO physics laboratory)
15:30	Experimental work on ion-molecule collisions (00h20')	WOLFF, Wania (Universidade Federal do Rio de Janeiro)

Coffee Break - (15:50-16:15)

International Landscape: Atomic Physics Activities Related to SPARC - (17 September 16:15-17:15)

time	title	presenter
16:15	APPA R – BMBF collaborative research in Germany (00h25')	SCHIPPERS, Stefan (JLU Giessen)
16:40	AVA (00h35')	DEVLIN, Lee (University of Liverpool)

Break - (17:15-17:30)**Collaboration Meeting: Topics: Funding Situation: International and National, Common Funds, Status Reports, “BMBF Verbundforschung” - (17 September 17:30-19:30)**

time	title	presenter
17:30	Status and perspectives FAIR project (00h15')	BEIER, Thomas (Gesellschaft für Schwerionenforschung mbH)
17:45	Status SPARC (00h30')	BRÄUNING-DEMIAN, Angela (GSI, Darmstadt)
18:15	National reports (share holders only!) (01h15')	NATIONAL REPRESENTATIVES

SPARC Board Meeting - (17 September 19:30-20:30)

Sunday 18 September 2016

Excursion to Wieliczka Salt Mine - (10:00-14:30)

Luncheon at the Saltworks Castle Wieliczka - (14:30-16:00)

Monday 19 September 2016

Biomolecular and Astrophysical Applications - (19 September 09:00-10:20)

- **Conveners: Hagmann, Siegbert (Goethe-Universität Frankfurt(UFfm-IKP)/GSI-Darmstadt)**

time	title	presenter
09:00	Gas-phase molecular astrochemistry and storage ring collision measurements (00h20')	WOLF, Andreas (MPI, Heidelberg)
09:20	Study of Metastable Transitions in He- & Li-like Fe Relevant to Astrophysics (00h20')	KARN, Ranjeet (Jam. Co-operative College, Jamshedpur (Kolhan University, Chaibasa) - India)
09:40	Experiments with biomolecular ions (00h20')	BARI, Sadia (DESY)
10:00	Fast ion collisions with large molecules of biological relevance (00h20')	TRIBEDI, Lokesh (Tata Institute of Fundamental Research, Mumbai, India)

Coffee Break - (10:20-10:50)

SPARC Experiments - (19 September 10:50-15:50)

- **Conveners: Sulik, Béla (MTA Atomki); Fluerasu, Daniela (IFIN-HH Bucharest, Romania)**

time	title	presenter
10:50	Recent tests of the Heidelberg microcalorimeter at the ESR (00h20')	FLEISCHMANN, Andreas (Uni Heidelberg)
11:10	SiM-X: Silicon microcalorimeters for high-precision X-ray spectroscopy – Status and Perspectives (00h20')	KRAFT-BERMUTH, Saskia (GSI, Darmstadt)
11:30	1s Lamb shift in high-Z ions: recent results from the FOCAL collaboration (00h20')	GUMBERIDZE, Alexandre (GSI, Darmstadt)
11:50	Recent electron-spectroscopy experiments at the ESR (00h20')	HILLENBRAND, Pierre-Michel (GSI, Darmstadt)
12:10	Proton capture experiment at the ESR (00h20')	GLORIUS, Jan (GSI, Darmstadt)
12:30	Lunch (02h00')	
14:30	Developments towards the transversal electron target for CRYRING (00h20')	EBINGER, Benjamin (Justus-Liebig-Universität Gießen)
14:50	Conversion e-spectrometer for CRYRING (00h20')	MA, Xinwen (Institute of Modern Physics, Chinese Academy of Sciences)
15:10	Tests for laser cooling experiments (00h20')	WINTERS, Danyal (GSI, Darmstadt)
15:30	Internal targets for the FAIR storage rings (00h20')	PETRIDIS, Nikolaos (GSI, Darmstadt)

Coffee Break - (15:50-16:20)

Theory - (19 September 16:20-18:00)

- **Conveners: Shabaev, Vladimir (GSI, Darmstadt)**

time	title	presenter
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16:20	Lifetime-induced modification of X-ray angular emissions from highly charged ions (00h25')	FRITZSCHE, Stephan (Helmholtz Institute Jena)
16:45	Fundamental atomic processes in highly relativistic collisions with HCI (00h25')	SURZHYKOV, Andrey (GSI, Darmstadt)
17:10	QED calculations of the binding energies in highly charged ions (00h25')	MALYSHEV, Aleksei (Department of Physics, St. Petersburg State University)
17:35	Relativistic Coulomb-Breit and QED calculations in heavy quasi-molecules (00h25')	TUPITSYN, Ilya (St.Petersburg State University) MIRONOVA, Darya (St. Petersburg State University) SHABAEV, Vladimir (GSI, Darmstadt)

Poster Session and Coffee - (19 September 18:00-20:00)

title	presenter	board
Status of the Precision High Voltage Divider for CRYRING (02h00')	HANNEN, Volker	63
Laser cooling and precision laser spectroscopy of highly charged ions: from the CSRe to HIAF (02h00')	WANG, Hanbing	64
Towards a fast calculator for atomic emission processes of photons and electrons from relativistic heavy-ion-atom collisions (02h00')	HERDRICH, Marc Oliver	66
Dielectronic Recombination: from HIRFL-CSR to HIAF (02h00')	HUANG, Zhongkui MA, Xinwen ZHU, Xiaolong WANG, Hanbing	68
Nuclear recoil effect on the g factor of boron-like ions (02h00')	SHCHEPETNOV, Arseniy	83
Observation of triply excited states in beam foil spectroscopy (02h00')	SHARMA, Gaurav	80
Angular dependence of L x-ray emission in high-Z atoms bombard by light swift ions (02h00')	KOZHEDUB, Yury	81
Electron emission from uracil and bromouracil at Bragg peak energy (02h00')	TRIBEDI, Lokesh	87
Zeeman splitting in boron-like charged ions (02h00')	AGABABAEV, Valentin	84
Pixel-detectors for X-ray polarimetry (02h00')	SPILLMANN, Uwe	27
PNC experiments on HCI (02h00')	VOLOTKA, Andrey	42
Study of QED in high-Z He-like ions (02h00')	TRASSINELLI, Martino	43
Intensity ratios and satellite structure of Chlorine K-shell x-rays induced by photons (02h00')	SHARMA, Shatendra SHARMA, Jyotsna	1
Dissociative ionization of molecules by charged Ions (02h00')	PAL, Satyendra	3
Fragmentation dynamics of N₂Ar dimer induced by highly charged ions (02h00')	ZHU, Xiaolong MA, Xinwen	2
Development of a Remote-Controlled UV-VIS Spectrometer for fluorescence measurements at Heavy-Ion Storage Rings (02h00')	REIß, Philipp	77
Quantum correlations in atomic processes with few-electron ions (02h00')	MAIOROVA, Anna	76
PEGASUS: An Intense Spin-Polarized Electron-Beam Source (02h00')	SCHURY, Daniel	75
Update on the detection system for forward emitted XUV photons from relativistic ion beams (02h00')	WINZEN, Daniel	74

Influence of Nuclear Interaction on Atomic Ionization near Coulomb Barrier Energies (02h00')	SHARMA, Prashant	73
Investigation of the focusing properties of U and S arrangement 45 and 30 dgrs two-stage parallel-plate analyzers with retardation between stages (02h00')	ZOUROS, Theo J.M.	71
Relativistic theory of excitation and ionization of the heavy Rydberg atoms and ions in a black-body radiation field (02h00')	BUYADZHI, Vasily	91
Relativistic energy approach to heavy Fermi-systems in a super strong field: AC Stark and multi-photon resonances (02h00')	BUYADZHI, Vasily	90
Pair production in a field of heavy nucleus and laser pulse (02h00')	MALTSEV, Ilia	92
Time Averaging of Quasi-Static Ionization Rates in Intense Laser Fields (02h00')	KHUJAKULOV, Anvar	94
Surface wake field effecton lifetime measurement (02h00')	SHARMA, Gaurav	79
EBIT at GSI and FSU Jena (02h00')	TROTSENKO, Sergiy	13
Scaling behavior of K-shell ionization in heavy ion collisions beyond the monopole approximation (02h00')	NOVAK, Oleksandr	58
Traps for storage rings (02h00')	FISCHER, Daniel	16
The study of energy spectrum of the homonuclear quasi-molecules in the critical region (02h00')	MIRONOVA, Darya	54
HILITE - ion trap to study interaction of ions with photons (02h00')	RINGLEB, Stefan	57
Antiproton measurements at BASE (02h00')	ULMER, Stefan	36
Resonance phenomena in heavy He-Be-like multicharged ions collisions (02h00')	BUYADZHI, Vasily	89
Recent tests of the Giessen Microcalorimeter at the ESR (02h00')	KRAFT-BERMUTH, Saskia	23
EBIT at GSI and FSU Jena (02h00')	TROTSENKO, Sergiy	100
Relativistic calculations of the isotope shifts in highly charged ions (02h00')	ZUBOVA, Natalia	102
Status of the Frankfurt low energy electrostatic storage ring (FLSR) (02h00')	MUELLER, Jan Christian	101

Tuesday 20 September 2016

SPARC Instrumentation - (20 September 09:00-10:40)

- **Conveners: Zouros, Theo (Univ. of Crete)**

time	title	presenter
09:00	Laser experiments at the HESR (00h25')	SANCHEZ ALARCON, Rodolfo Marcelo (GSI, Darmstadt)
09:25	Coupling of lasers to the UHV of storage ring (00h25')	STANCALIE, Viorica (National Institute for Laser, Plasma and Radiation Physics, Romania)
09:50	Development of high-repetition rate XUV lasers for storage-ring experiments (00h25')	ROTHHARDT, Jan (GSI, Darmstadt)
10:15	Cryogenic Current Comparators – basics and the next generation (00h25')	TYMPEL, Volker (Friedrich-Schiller-University Jena, Institute of Solid State Physics)

Coffee Break - (10:40-11:10)

International Landscape - (20 September 11:10-12:30)

- **Conveners: Prigent, Christophe (INSP/UPMC)**

time	title	presenter
11:10	Radiative capture of twisted electrons by bare ions. Going beyond the Born approximation (00h20')	ZAYTSEV, Vladimir (Department of Physics, St. Petersburg State University, Ulianovskaya 1, Petrodvorets, 198504 St. Petersburg, Russia)
11:30	Status of the FISIC experimental program (00h20')	LAMOUR, Emily (Institut des NanoSciences de Paris - UPMC)
11:50	X-ray spectroscopy experiments at EBIS facility in Kielce (00h20')	JABŁOŃSKI, Łukasz (UJK Kielce)
12:10	New technology for production of highly charged ions (00h20')	OVSYANNIKOV, VLADIMIR (Dresden MaMFIS Grup)

Concluding Remarks - (12:30-12:40)

- **Presenters: STÖHLKER, Thomas (GSI, Darmstadt)**