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Monday, 3 September 2018 - Friday, 7 September 2018

NOVA School of Science and Technology (FCT NOVA)

Book of Abstracts

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FRAGMENTATION AND COOLING OF DOUBLY CHARGED ANTHRACENE STUDIED IN AN ELECTROSTATIC STORAGE RING, THE MINI-RING.

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Keywords:

molecule
fragmentation
cooling
storage ring

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Open Shell Ions Mobility in Cooled Helium Gas

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Keywords:

Interaction potential, Quantum-mechanical transport cross section, Mobility

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Measurements of the L-shell X-ray Emission of Neonlike Europium on an Electron Beam Ion Trap

Authors: Peter Beiersdorfer[1]; G. Brown[1]; N. Hell[2]; R. L. Kelley[3]; C. A. Kilbourne[3]; F. S. Porter[3]; Elmar Träbert[1]

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Keywords:

X-ray spectroscopy
EBIT

Topics:

Fundamental Aspects, Structure and Spectroscopy

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A fresh computational approach to atomic structures, processes and cascades for multiply and highly-charge ions

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Keywords:

relativistic atomic structure theory
atomic properties and processes
advanced computations

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Extreme Ultraviolet Spectra of Europium –Chasing for Spectral Lines of P- to Ar-like Ions

Authors: Elmar Träbert[1]; Peter Beiersdorfer[2]; Gregory V. Brown[3]; Natalie Hell[4]; Joel H. T. Clementson[5]

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Keywords:

Extreme-ultraviolet spectroscopy
Electron beam ion trap

Highly charged ions

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Shakeoff Ionization near the Coulomb Barrier Energy

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Keywords:

X-RAY SPECTROSCOPY,
SUDDEN PERTURBATION,
SHAKEOFF PROCESS,
COULOMB BARRIER

Topics:

Fundamental Aspects, Structure and Spectroscopy

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First application of combined isochronous and Schottky mass spectrometry: Half-lives of fully ionized 49Cr24+ and 53Fe26+ atoms

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Keywords:

isochronous and Schottky mass spectrometry,β-decaying,highly charged ions

Topics:

Production, Experimental Developments and Applications

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Imaging Properties Of A Broad-Band Toroidal Electron-Positron Pair Spectrometer

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Keywords:

ion atom collisions, free-free opair production

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Multiple ionization induced by proton

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Keywords:

Multiple ionization, Proton, lower collision energy

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Interaction Strength Dependence Orientation Effect In Ionization Of CO

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Keywords:

Muliple Ionization, Collisions, Orientation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

21

Ionization and electron capture in C6+ + H collisions

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Keywords:

ionization
electron capture
scattering theory
carbon

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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observation of electron correlation in transfer target excitation process

Authors: Daniel Fischer[None]; Xincheng Wang[None]; Zhangyong Song[None]

Keywords:

reaction microscope, trasfer target excitation, electron correlation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Radiative and Auger rates for highly-ionized iron K-lines under dense astrophysical plasma conditions

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Keywords:

Plasma effects
Iron K-lines

Radiative and Auger rates

Topics:

Interactions with Photons and Plasmas

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DIMERIC CATIONS OF SMALL PAHs PRODUCED IN AN ELECTRON CYCLOTRON RESONANCE ION SOURCE

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Keywords:

ECR ion Source, dimer cations, Polycyclic Aromatic Hydrocarbons (PAHs)

Topics:

Production, Experimental Developments and Applications

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The experimental investigation of sequential dissociation of OCS induced by Ne4+ ion impact

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Keywords:

Sequential Dissociation, Ion impact, KER, OCS

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Half-life Measurement of 94mRu44+ at Storage Ring in Lanzhou

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Keywords:

Half-life Measurement
highly charged radioactive ions
Storage Ring

Topics:

Production, Experimental Developments and Applications

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Potential Sputtering of CaSiO3 by Solar Wind Ions

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Co-authors: Herbert Biber [2]; Rimpei Chiba [1]; Reinhard Stadlmayr [1]; Daniel Mayer [1]; Bernhard Maximilian Berger [1]; Andreas Mutzke [3]; Michael Doppler [4]; Markus Sauer [5]; Julia Appenroth [4]; Jürgen Fleig [4]; Annette Foelske-Schmitz [5]; Herbert Hutter [4]; Klaus Mezger [6]; Helmut Lammer [7]; André Galli [8]; Peter Wurz [8]; Friedrich Aumayr [1]

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Keywords:

Potential Sputtering
Quartz Crystal Microbalance
Solar Wind
Space Weathering

Topics:

Interaction with Clusters, Surfaces and Solids

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Lifetime Study of Fully Ionized 205 Tl 81+

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Keywords:

Bound-state beta-decay

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Coherence and Spotting Effects of Fast Atoms Colliding With Surfaces: From Quantum to Classic.

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Keywords:

Coherence.
Interference.
Wave Matter.
Surface

Topics:

Interaction with Clusters, Surfaces and Solids

33

The Spin Doublets, FWHM, and Shake Probabilities in 3d Kb1,3 Spectra

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Keywords:

3d Kb1,3 spectra, high-resolution X-ray crystal spectrometer, spin doublets, FWHM, diagram lines

Topics:

Fundamental Aspects, Structure and Spectroscopy

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On The Characteristics of Various X-ray Crystal Spectrometers

Authors: Yoshiaki Ito[1]; Jose Paulo Santos[2]

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Keywords:

Anti-parallel x-ray crystal spectrometer, diagram lines, high-resolution, instrumental function

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Near L-edge photoionization of singly charged iron ions

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Keywords:

inner-shell photoionization
multiple ionization
interstellar medium
soft x-rays
synchrotron radiation

Topics:

Interactions with Photons and Plasmas

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SOFT X-RAY SPECTRA FROM LASER PRODUCED SAMARIUM PLASMAS

Authors: John Sheil[1]; Ragava Lokasani[2]; Hiroyuli Hara[3]; Toshiki Tomura[3]; Takuya Gisuji[3]; Takeshi Higashiguchi[3]; Chihiro Suzuki[4]; Jiri Lampouch[2]; Gerry O'Sullivan[1]

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Keywords:

soft x-ray spectra, laser produced plasmas, spectroscopy, samarium ion spectra

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Dissociative Ionization of the H2O Molecule Induced by MeV-energy Bare and Partially Screened Projectiles

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Co-authors: Péter Herczku ; Zoltán Juhász ; László Sarkadi ; László Gulyás ; Béla Sulik

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Keywords:

molecule
ionization
fragmentation
dissociation
ion impact

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Main Magnetic Focus Ion Sources: past, present and future

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Keywords:

novel ion sources

Topics:

Production, Experimental Developments and Applications

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First runs of MaMFIS-35 at JINR in Dubna

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Keywords:

novel ion source, deep ionization of heavy elements

Topics:

Production, Experimental Developments and Applications

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Relativistic configuration-interaction calculation of the ground and singly excited energy levels in berylliumlike ions

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Co-authors: Vladimir Shabaev [2]; Yury Kozhedub [2]; Ilya Tupitsyn [2]

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Keywords:

Relativistic calculation, configuration-interaction, heavy charged ions, berillium-like, energy levels

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Laser Cooling and Precision Laser Spectroscopy of Relativistic Highly Charged Ions: From the CSRe to HIAF

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Keywords:

Laser cooling, Precision laser spectroscopy, Phase transition, QED

Topics:

Interactions with Photons and Plasmas

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Fragmentation of hydrocarbon molecule produced by slow highly charged ion impact

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Keywords:

Highly charged ion, hydrocarbon molecule, fragmentation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Angular Distribution of Radiation Emitted after Electron Capture into 197 MeV/u Xe54+ Collision with Kr and Xe Gaseous Targets

Authors: Bian Yang [1]; Deyang Yu[1]

Co-authors: Xiaohong Cai [1]; Caojie Shao [1]; Yingli Xue [1]; Wei Wang [1]; Mingwu Zhang [1]; Junliang Liu [1]; Zhangyong Song [1]; Yehong Wu ; Rongchun Lu [1]; Fangfang Ruan

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Keywords:

Ion-Atom Collisions, Heavy Ion Storage Ring, X-ray Spectroscopy, Electron Capture

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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State Selective X-ray of Electron Capture into Bare Xenon Ions in Fast Collision with Krypton and Xenon Gaseous Targets

Authors: Bian Yang[1]; Deyang Yu[1]

Co-authors: Xiaohong Cai [1]; Caojie Shao [1]; Yingli Xue [1]; Wei Wang [1]; Mingwu Zhang [1]; Junliang Liu [1]; Zhangyong Song [1]; Yehong Wu ; Rongchun Lu [1]; Fangfang Ruan

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Keywords:

Ion-Atom Collisions, Heavy Ion Storage Ring, Non-Radiative Electron Capture, Radiative Electron Capture

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Dissociative Ionization of the C2H6 Molecule Induced by 1 and 2 MeV H+ Impact

Author: Sándor Kovács[1]

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Keywords:

molecule
ionization
fragmentation
dissociation
ion impact

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Energy Dependence of Blocking Effects on the Transmission of Ne7+ Ions through Nanocapillaries

Author: Péter Herczku[1]

Co-authors: Zoltán Juhász [2]; Sándor T. S. Kovács ; Richard Rácz ; Sándor Biri ; Béla Sulik

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Keywords:

Nanocapillaries
Ion guiding

Topics:

Interaction with Clusters, Surfaces and Solids

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Monochromatic and mean radiative properties of astrophysical plasma mixtures in non-local thermodynamic equilibrium regime

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Keywords:

Astrophysical plasma mixtures radiative properties
Higjhly charged ions
Non-local thermodynamic equilibrium regime

Topics:

Fundamental Aspects, Structure and Spectroscopy

49

Calculations of stopping power of partially stripped ions in partially ionized plasmas

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Keywords:

Plasma atomic properties
Ion bean-plasma interaction
Non-local thermodynamic equilibrium plasmas

Topics:

Interactions with Photons and Plasmas

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Nuclear recoil effect on the g factor of Li-like ions

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Corresponding Author: v.shabaev@spbu.ru

Keywords:

g factor
quantum electrodynamics
nuclear recoil effect

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Approximate Scaling of the Time-Dependent Dirac Equation for Multiphoton Ionization of Hydrogen-like Ions

Author: Irina Ivanova[1]

Co-authors: Vladimir Shabaev [1]; Dmitry Telnov [1]; Alejandro Saenz [2]

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Keywords:

scaling laws,
hydrogen-like ions,
intense laser pulses

Topics:

Strong Field and Ultrafast Processe

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Total Cross Sections of Ionization and Electron Capture for Biological Molecules Impacted by Ions

Authors: Michele Quinto[1]; Juan Monti [1]; Philippe Weck[2]; Omar Fojón[1]; Christophe Champion[3]; Roberto Rivarola[1]

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Keywords:

Ionization
Capture
Ions collision
Biological molecules

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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Role of Ion Impact Ionization Cross Sections in Radiation Biology Using Swift Highly Charged Ion Beams

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Keywords:

Ion impact ionization cross sections, Radiation biology, Cancer therapy, electric field

Topics:

Production, Experimental Developments and Applications

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Multiconfiguration Dirac-Hartree-Fock Energy Levels and Transition Data for As XIX, Kr XXII, and Mo XXVIII Ions

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Keywords:

Energy levels,
transitions data,
P-like isoelectronic sequence

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Interaction of Highly Charged Ions with Surfaces and Nano-Materials using Kobe EBIS

Authors: Makoto Sakaurai[1]; Naofumi Nishida[1]; Akane Yamauchi[1]; Yuuki Hori[1]; Hazuki Fujiwara[1]; Shinichi Honda[2]; Hiroyuki Sakaue[3]; Daiji Kato[3]; Tomohiro Yamaguchi[4]; Kouji Ishibashi[4]; Yuya Fujiwara[2]; K.-Y. Lee[5]; Toshifumi Terui[6]

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Keywords:

Carbon nano tube
Transmission electron microscope
Electron spin resonance

Topics:

Interaction with Clusters, Surfaces and Solids

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Non-Perturbative Vacuum Polarization Effects in One- and Two-Dimensional Supercritical Dirac-Coulomb Systems

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Keywords:

non-perturbative QED-effects, one- and two-dimensional Dirac-Coulomb systems, supercritical fields, vacuum polarization.

Topics:

Fundamental Aspects, Structure and Spectroscopy

58

Characteristics of HCIs Produced at Kobe EBIS under Modulated Operation

Authors: Makoto Sakurai[1]; Naofumi Nishida[1]; Yuuki Hori[1]; Akane Yamauchi[1]; Hazuki Fujiwara[1]; Daiji Kato[2]; Hiroyuki Sakaue[2]

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Keywords:

Electron beam ion source
Modulation of electron beam
Time evolution

Topics:

Production, Experimental Developments and Applications

60

Theoretical Description Of The K-shell Ionization In Heavy Ion Collisions

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Keywords:

K-shell ionization, hydrogen-like ion, two-center hamiltonian, asymmetric collisions

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

61

A FPGA/Labview-based Data Acquisition System for Voltage-Biased Silicon Microcalorimeters for X-ray Detection

Author: Saskia Kraft-Bermuth[1]

Co-authors: Holger Brand [2]; Artur Echler [2]; Damian Muell [1]; Pascal Scholz [1]

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Keywords:

silicon microcalorimeters
data acquisition system
X-ray detection

Topics:

Production, Experimental Developments and Applications

62

Simulation of ion beam-plasma interaction processes for point-like ions in partially ionized plasmas.

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Keywords:

Ion beam plasma interaction
Stopping power
Heating plasma

Topics:

Interactions with Photons and Plasmas

63

Proton Collision With Nitrogen Gas By Using Time-dependent Density Functional Theory

Authors: Wandong Yu[1]; Congzhang Gao[2]; Tiantian Jiang[1]; Roger Hutton[1]; Yaming Zou[1]; Baoren Wei[1]

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Keywords:

Cross sections, time-dependent density functional theory, Nitrogen gas, KeV

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

64

Differential Cross Sections for Single Ionization of Li by p, Li2+, and O8+

Authors: Andrey Bondarev[None]; Ilya Tupitsyn[1]; Vladimir Shabaev[1]

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Keywords:

ion-atom collisions
ionization
differential cross sections

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

65

Electron Induced K-Shell X-ray Emission from Solid Metal Targets：A Monte Carlo Simulation

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Keywords:

inner-shell ionization, electron beams, Monte Carlo (MC) simulation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

66

Electron Capture in O2+ + H2 Collisions at a few keV Impact Energies

Authors: Sándor Demes[1]; Zoltán Juhász[2]; Jean-Yves Chesnel[3]; Sándor Kovács[1]; Peter Herczku[1]; Erika Bene[1]; Violaine Vizcaino[3]; Alain Méry[3]; Jimmy Rangama[3]; Jean-Christophe Poully[3]; Nicolas Sens[3]; Béla Sulik[1]

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Keywords:

ion-molecule collision, electron capture, coupled channel theory, fragmentation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

67

Microscopic characterization of noble gas plasmas of interest in Laboratory Astrophysics

Authors: Guadalupe Espinosa Vivas[1]; Rafael Rodríguez Pérez[1]; Juan Miguel Gil[2]; Pablo Rodríguez Beltrán[2]

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Keywords:

Laboratory Astrophysics
NLTE Radiative Properties
Lowly and highly charged ions of noble gases

Topics:

Fundamental Aspects, Structure and Spectroscopy

68

SIM-X: Silicon Microcalorimeters For X-ray Spectroscopy At Storage Rings –Status And Perspectives

Author: Pascal Scholz[1]

Co-authors: Victor Andrianov [2]; Alexander Bleile [3]; Artur Echler [4]; Peter Egelhof [4]; Damian Müll [1]; Saskia Kraft-Bermuth [1]

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Keywords:

X-ray spectroscopy, Silicon microcalorimeters

Topics:

Production, Experimental Developments and Applications

69

TOTAL BINDING ENERGIES OF XENON AND LEAD IONS

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Keywords:

Binding energy, Highly charged ions, Multi-Conguration Dirac-Fock calculation

Topics:

Fundamental Aspects, Structure and Spectroscopy

70

Fine And Hyperfine Structure Of Heavy Muonic Atoms

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Keywords:

Muonic atoms
Fine structure
Hyperfine structure

Topics:

Fundamental Aspects, Structure and Spectroscopy

71

Direct two-electron ejection from F- by a single photon

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Keywords:

negative ions
inner-shell photoionization
direct double ionization
synchrotron radiation
photon-ion merged-beams method

Topics:

Interaction with Clusters, Surfaces and Solids

72

Resonant propagation of polarized photon in a strong magnetic field

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Keywords:

Quantum electrodynamic processes,
strong magnetic field,
resonance.

Topics:

Strong Field and Ultrafast Processe

73

Towards an Optical Clock based on Quantum Logic Spectroscopy of Highly Charged Ions

Author: Peter Micke[1]

Co-authors: Steven King [1]; Tobias Leopold [1]; Steffen Kühn [2]; Janko Nauta [2]; Lisa Schmöger [2]; Maria Schwarz [2]; Julian Stark [2]; José Crespo López-Urrutia [3]; Piet Schmidt [1]

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Keywords:

Highly charged ions
Quantum logic spectroscopy
Optical clock
Frequency metrology
Electron beam ion trap
Paul trap

Topics:

Fundamental Aspects, Structure and Spectroscopy

74

Towards Laser Cooling of Relativistic 16O5+ Ion Beams at the CSRe

Authors: Hanbing Wang[1]; Weiqiang Wen[1]; Zhongkui Huang[1]; Dacheng Zhang[None]; Bang Hai[1]; Dongmei Zhao [1]; Xiaolong Zhu[1]; Xiaoni Li[1]; Lijun Mao[1]; Ruishi Mao[1]; Junxia Wu[1]; Jiancheng Yang[1]; Youjin Yuan[1]; Danyal Winters[2]; Michael Bussmann[3]; Xinwen Ma[1]

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Keywords:

heavy- ion storage ring, laser cooling, highly charged ions, ultra-cold ion beams, precision laser spectroscopy

Topics:

Production, Experimental Developments and Applications

75

Resolved contributions of resonant inelastic electron scattering to the soft x-ray photon emission of Fe XVII

Authors: Pedro Amaro[1]; Chintan Shah[2]; Sven Bernitt[2]; Stepan Dobrodey[2]; José Marques[None]; José Paulo Santos[3]; Thomas Pfeifer[2]; José R. Crespo López-Urrutia[2]

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Keywords:

Electron recombination;
EBIT
Resonant electron scattering

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

76

Dielectronic Recombination of B-Like Ar13+ at the CSRm

Authors: Zhongkui Huang[1]; Weiqiang Wen[1]; Shuxing Wang[2]; Hanbing Wang[3]; Xin Xu[4]; nadir khan[1]; lijun dou[1]; xiaoya Chuai[1]; Dongmei Zhao[1]; Xiaolong Zhu[1]; Lijun Mao[1]; Xiaoming Ma[1]; Jie Li[1]; Ruishi Mao[1]; Jiancheng Yang[1]; Dayu Yin[1]; Youjin Yuan[1]; Linfan Zhu[5]; Xinwen Ma[1]

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Keywords:

highly charged ions, dielectronic recombination, storage ring

Topics:

Fundamental Aspects, Structure and Spectroscopy

77

The ALPHATRAP g-factor Experiment

Authors: Tim Sailer[1]; Ioanna Arapoglou[1]; Alexander Egl[1]; Sandro Kraemer[1]; Timo Steinsberger[1]; Andreas Weigel[1]; José R. Crespo López-Urrutia[2]; Martin Höcker[3]; Bingsheng Tu[3]; Robert Wolf[4]; Sven Sturm[2]; Klaus Blaum[2]

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Keywords:

Penning trap
Highly charged ions
Precision Measurement
BS-QED

Topics:

Production, Experimental Developments and Applications

78

1s-1s Electron Capture from Adenine Molecule by Swift Projectile Ions Using KLL-Auger Electron Technique

Authors: Chandan Bagdia[1]; Lokesh C. Tribedi[1]

Co-authors: Anuvab Mandal [1]; Madhusree Roychowdhury [1]; Shamik Bhattacharjee [1]

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Keywords:

1s-1s electron transfer, adenine, Auger Electron, 1s-ionization, radiation damage, electron spectroscopy

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

79

Double Differential Cross Section Measurement of Electron Emission from Fluorene Molecule Upon Ion Impact

Authors: Chandan Bagdia[1]; Lokesh C. Tribedi[1]

Co-authors: Anuvab Mandal [1]; Shamik Bhattacharjee [1]; Madhusree Roychowdhury [1]; Madugula Nrisimhamurty [1]; Deepankar Misra [1]

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Keywords:

PAH, Fluorene, Collective excitation, DDCS

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

80

Prospects of atomic physics with highly charged heavy ions at HIAF

Authors: Xinwen Ma[1]; Weiqiang Wen[1]; Shaofeng Zhang[1]; Zhongkui Huang[1]; Hanbing Wang[2]; Jie Yang[1]; Xiaolong Zhu[1]; Deyang Yu[1]; Rui Cheng[1]; Lijun Mao[1]; Jiancheng Yang[1]; Lina Sheng[1]; Bo Wu[1]; Xiaohong Zhou[1]; Hushan Xu[1]; Youjin Yuan[1]; Jiawen Xia[1]; Hongwei Zhao[1]; Guoqing Xiao[1]; Wenlong Zhan[1]

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Keywords:

Highly Charged ions,
Relativistic collision dynamics,
Precision spectroscopy,
HIAF

Topics:

Production, Experimental Developments and Applications

81

Performance And Testing Of Ultra High Vacuum Compatible Silicon Strip Detectors At GSI Storage Rings

Author: Laszlo Varga[1]

Co-authors: C. G. Bruno [2]; T. Davinson [2]; J. Glorius [3]; B. Jurado [4]; C. Langer [5]; C. Lederer-Woods [2]; M. Lestinsky [6]; Yuri Litvinov ; R. Reifarth [5]; Z. Slavkovská [6]; M. Steck [6]; T. Stöhlker [6]; P. J. Woods [2]; Yuanming Xing

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Keywords:

DSSSD
124Xe(p,γ)
proton-capture

Topics:

Fundamental Aspects, Structure and Spectroscopy

82

Upgrade of the Main Magnetic Focus Ion Trap in Giessen

Authors: Marc Keil[1]; Stefan Schippers[1]; Alfred Müller[1]; Alexander Borovik[1]

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Keywords:

Argon Ions
Highly-charged ions production
Main Magnetic Focus Ion Trap
X-ray spectra

Topics:

Production, Experimental Developments and Applications

83

Two-center Dirac equation beyond the monopole approximation: critical distances for lower electronic levels

Authors: Artem Roenko[1]; Konstantin Sveshnikov[1]

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Corresponding Authors: costa@bog.msu.ru, roenko@physics.msu.ru

Keywords:

two-center Dirac equation,
heavy ions collisions,

critical distances,
superheavy nuclear quasi-molecules

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

84

Shift of electronic levels due to dynamically screened electron magnetic anomaly for systems with supercritical charge

Authors: Artem Roenko[1]; Konstantin Sveshnikov[1]

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Keywords:

dynamically screened AMM,
non-perturbative QED effects,
H-like atoms,
nuclear quasi-molecule,
large Z

Topics:

Fundamental Aspects, Structure and Spectroscopy

85

Electron-Ion Recombination Rate Coefficients of Be-like Ca

Authors: Shuxing Wang[1]; Xin Xu[None]; Zhongkui Huang[2]; Weiqiang Wen[2]; Nadir Khan[2]; Hanbing Wang[3]; Simon Preval[None]; Nigel Badnell[None]; Stefan Schippers[4]; Sultan Mahmood[None]; Lijun Dou[2]; Xiaoya Chuai[2]; Dongmei Zhao[2]; Xiaolong Zhu[2]; Xiaoming Ma[2]; Jie Li[2]; Lijun Mao[2]; Ruishi Mao[2]; Dayu Yin[2]; Youjin Yuan[2]; Jiancheng Yang[2]; Bo Wu[2]; Xinwen Ma[2]; Linfan Zhu[5]

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Keywords:

storage ring, electron-ion recombination, rate coefficient

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

86

Electron Impact Double K-shell Ionization and Hypersatellite Radiative Transitions of Solid Sc, Cr and Cu

Authors: Faisal Zeeshan[1]; Jean-Claude Dousse[1]; Joanna Hoszowska[1]

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Keywords:

Electron impact
Double K-shell ionization
X-ray hypersatellite transitions
High resolution X-ray emission spectroscopy

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

87

MULTIPOLE CROSS SECTIONS FOR COLLISIONAL EXCITATIONS OF HIGHLY CHARGED IONS BY ISOTROPIC ELECTRONS

Authors: Mohamed Sadek Bentotoche[1]; Mokhtar Kemal Inal[1]; Mustapha Benmouna[1]

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Keywords:

electron-ion collision,
isotropic electrons,
multipole cross sections.

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

88

The Hyperfine-Puzzle of Strong-Field Bound-State QED

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Co-authors: R. Sánchez ; Z. Andelkovic ; C. Brandau ; A. Dax ; W. Geithner ; Ch. Geppert ; C. Gorges ; M. Hammen ; V. Hannen ; S. Kaufmann ; K. König ; A. Yu ; M. Litvinov ; M. Lochmann ; M. Maaß ; J. Meisner ; T. Murböck ; M. Schmidt ; S. Schmidt ; M. Steck ; T. Stöhlker ; R.C. Thompson ; C. Trageser ; J. Vollbrecht ; C. Weinheimer ;

V.M. Shabaev ; L.V. Skripnikov ; A.V. Volotka ; J. Ullmann ; F. Kraus ; B. Kresse ; A.F. Privalov ; B. Scheibe ; M. Vogel

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Keywords:

strong field QED
laser spectroscopy

Topics:

Fundamental Aspects, Structure and Spectroscopy

89

Calculations Of The Electron-Positron Pair Creation In Low-Energy Collisions Of Heavy Bare Nuclei

Authors: Roman Popov[1]; Andrey Bondarev[None]; Ilia Maltsev[2]; Yury Kozhedub[2]; Vladimir Shabaev[2]; Ilya Tupitsyn[2]; Xinwen Ma[3]; Günter Plunien[4]; T. Stöhlker[None]

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Keywords:

collisions, low-energy, heavy nuclei, pair creation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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High-Precision Mass Measurements of Highly-Charged Xenon Isotopes with PENTATRAP

Authors: Christoph Schweiger[1]; José R. Crespo López-Urrutia[1]; Menno Door[1]; Sergey Eliseev[1]; Pavel Filianin[1]; Kathrin Kromer[1]; Yuri N. Novikov[2]; Alexander Rischka[1]; Rima X. Schüssler[1]; Stefan Ulmer[3]; Sven Sturm[1]; Klaus Blaum[1]

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Keywords:

Penning trap, mass spectrometry, xenon, mass, neutrino physics, special relativity theory, QED, highly-charged ions

Topics:

Fundamental Aspects, Structure and Spectroscopy

91

Electron Emission In Collisions Between Dressed Ions And Multielectronic Targets: The Role Of The Projectile Distortion

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Co-authors: Michele Quinto [2]; Roberto Rivarola [3]

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Keywords:

ionization
dressed-projectiles
multielectronic-targets
distorted-wave

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

92

Ionization Of Water Molecules By Fast Dressed H, He+ And He Ion Beam Impact

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Keywords:

ionization
biological-molecules
dressed-projectiles
distorted-wave-models

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

93

Towards Experiments with Highly Charged Ions at HESR

Authors: Angela Braeuning-Demian[1]; Anton Kalinin[2]; Jan Glorius[3]; Nikolaos Petridis[2]; Pierre-Michel Hillenbrand[4]; Rodolfo Sánchez[3]; Shahab Sanjari[2]; Siegbert Hagmann[2]; Thomas Köhler[5]; Thomas Stöhlker[2]; Uwe Spillmann[2]; Yuri Litvinov[2]

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Keywords:

Ion storage rings
Atomic physics
Instrumentation

Topics:

Production, Experimental Developments and Applications

94

Lattice Calculation of Electron-Capture and Electron-Loss Cross Sections in Ion-H2O Collisions

Authors: Marco Alfonso Lombana[1]; Clara Illescas[1]; Luis Méndez[1]; Ismanuel Rabadán[1]; Jaime Suárez[2]

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Keywords:

Lattice methods. Ion-Molecule collisions. Electron capture. Electron loss

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

95

CRYRING@ESR - Towards First Experiments with Beam from ESR

Authors: Frank Herfurth[None]; M. Lestinsky[1]; Z. Andelkovic[None]; Angela Braeuning-Demian[2]; Svetlana Fedotova[3]; W. Geithner[None]; Anders Kaellberg[4]; Gleb Vorobjev[3]

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Keywords:

Storage Ring Facility
heavy, highly charged ions
precision experiments

Topics:

Production, Experimental Developments and Applications

96

Observation of Radiative Double Electron Capture (RDEC) for F9+ + N2

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Keywords:

Electron Capture
Atomic collisions
RDEC

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

97

Target K-Shell Ionization with Single and Double Electron Capture for F7+, 8+, 9+ + Ar Collisions

Authors: David La Mantia[1]; Nuwan Kumara[1]; Asghar Kayani[2]; Anna Simon[3]; John Tanis[1]

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Keywords:

K-shell, ionization, capture

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

98

Radiation Hydrodynamic Characteristics of Highly Charged Ions in Laser-Produced Plasmas

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Co-authors: Qi Min [1]; Shiquan Cao [1]; Duixiong Sun [2]; Gerry O'Sullivan [3]; Chenzhong Dong [2]

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Keywords:

Laser produced plasma, Highly Charged Ions, Radiation Hydrodynamic

Topics:

Fundamental Aspects, Structure and Spectroscopy

99

Radiative Double Electron Capture for 40 MeV F8+ and F9+ + Ne

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Keywords:

electron capture, radiative

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

100

Lifetime measurements of ultra-short-lived excited states in Be-like ions

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Keywords:

Lifetimes, excited states, Be-like ions, QED, XUV, laser

Topics:

Fundamental Aspects, Structure and Spectroscopy

103

Stereo-dynamical ion-pair formation in collisions of highly-charged ions with argon dimers

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Keywords:

highly-charged ions, argon dimers, stereo-dynamics

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

104

Coincidence Measurements of Scattered and Desorbed Ions from Solid Ne Surfaces by Slow Arq+ Ion Impact

Author: Hiroyoshi Sawa[1]

Co-authors: Shuntarou Uchida [1]; Hirokazu Ueta [2]; Takato Hirayama [1]

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Keywords:

Rare gas solids, Potential sputtering, Coincidence measurement, Gas flow model

Topics:

Interaction with Clusters, Surfaces and Solids

105

X-Ray Atomic Data Of W LXXIII And W LXXII For ITER Hot Core Temperature Measurement Studies

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Keywords:

Atomic Structure Calculations,
Plasma Diagnostic Studies,
Highly Charged Ions

Topics:

Fundamental Aspects, Structure and Spectroscopy

106

Toward Experiments on Highly-charged Muonic Atom/ion Formation and Muon Transfer Process at J-PARC

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Keywords:

muonic atom, muonic x-ray

Topics:

Fundamental Aspects, Structure and Spectroscopy

107

VISIBLE SPECTROSCOPY OF HIGHLY CHARGED BARIUM IONS IN A COMPACT ELECTRON BEAM ION TRAP WITH A BUFFER GAS CALIBRATION METHOD

Author: Naoki Kimura[1]

Co-authors: Ryuunosuke Kodama [2]; Suzuki Kento [2]; Shimpei Ohishi [2]; Michiharu Wada [3]; Kunihiro Okada [1]; Noriaki Ohmae [4]; Hidetoshi Katori [5]; Nobuyuki NAKAMURA [2]

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Keywords:

Compact EBIT
Visible spectroscopy
Calibration method
Precision and Accuracy
Highly charged Barium ion
Toward HCI Clock

Topics:

Fundamental Aspects, Structure and Spectroscopy

108

The Relative Correlation Probability For The Formation Of Various Charge States Of Argon Recoil Ions Under Electron Impact

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Keywords:

Recoil ions, Auger process, electron-ion coincidence.

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

109

Development of a High Photon Flux XUV Laser Source for Spectroscopy of Highly-Charged Ions at FAIR

Authors: Alexander Kirsche[1]; Jan Rothhardt[2]; Jens Limpert[3]; Maxim Tschernajew[4]; Robert Klas[4]; Stefan Schippers[5]; T. Stöhlker[6]; vinzenz hilbert[7]

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Keywords:

XUV
Laser
Spectroscopy
Fair
HHG
Highly Charged Ions

Topics:

Production, Experimental Developments and Applications

110

Light-by-light Scattering Corrections to the Bound-Electron g Factor at the Two-Loop Level

Authors: Vincent Debierre[1]; Bastian Sikora[1]; Halil Cakir[1]; Natalia Oreshkina[2]; Zoltán Harman[1]; Christoph H. Keitel[2]

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Keywords:

g Factor
Light-by-light scattering
QED corrections

Topics:

Fundamental Aspects, Structure and Spectroscopy

111

ELECTRON AND X-RAY EMISSION BY IONS IMPACTING ON SURFACE

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Keywords:

elelctron emission, X-ray emission, higly charged ions

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

112

Effects Of Radiative Cascades From Higher Levels On The Properties Of The Lyman-line Emission Following Radiative Recombination Of Highly Charged Ions

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Co-author: Mohammed Réda Boufatah [2]

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Keywords:

radiative recombination
electron beam
Lyman emissioin
line polarization
H-like ions
magnetic sublevels cross-sections

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

113

The Polarization Of The Lyman-α1,β1 Lines Emission Following Radiative Recombination Of Highly Charged Ions : E1-M2 Mixing Effect

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Keywords:

radiative recombination
electron beam
Lyman emission
line polarization
H-like ions
magnetic sublevels cross-sections

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

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The Effect of Gas Mixing on Output Currents of Xe from ECR Plasma

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Keywords:

Electron cyclotron resonance (ECR) ion source
Gas mixing technique
Xenon

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

115

Electron Emissions from 5-Iodouracil Induced by 5.5 MeV/u Bare C Ions

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Keywords:

Bio-molecule
5-Iodouracil
Double differential cross-section (DDCS)
Electron emissions
Electron spectroscopy

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

116

Separating Sequential and Concerted Dissociation Pathways of OCS^3+

Author: Herendra Kumar[1]

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Keywords:

Fragmentation, Kinetic Energy Release, Intermediate Ion

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

117

Status of the Transverse Free-Electron Target for the Heavy-Ion Storage Ring CRYRING@ESR

Author: Carsten Brandau[1]

Co-authors: Alexander Borovik [1]; B. Michel Döhring [2]; Benjamin Ebinger [1]; Michael Lestinsky [3]; Tobias Molkentin [1]; Alfred Müller [1]; Stefan Schippers [1]

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Keywords:

Storage Ring
Electron-Ion Collisions
Free-Electron Target

Topics:

Production, Experimental Developments and Applications

118

Development of an Experimental Database of EUV Spectra from Highly Charged Ions of Medium to High Z Elements in the Large Helical Device Plasmas

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Co-authors: Izumi Murakami ; Fumihiro Koike ; Takeshi Higashiguchi ; Hiroyuki Sakaue [1]; Naoki Tamura ; Shigeru Sudo ; Gerard O'Sullivan [2]

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Keywords:

EUV spectra
LHD
UTA

Topics:

Fundamental Aspects, Structure and Spectroscopy

119

Evolution of Dense nP Rydberg Rb Atoms into Ultracold Plasma

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Keywords:

Dense Rydberg Atoms
Ultracold Plasma
Spontaneous Evolution
Collision Dynamics

Topics:

Interactions with Photons and Plasmas

120

HILITE - An Ion Trap for High-Intensity-Laser Experiments

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Co-authors: Sugam Kumar [3]; Tino Morgenroth [2]; Markus Kiffer [1]; Manuel Vogel [2]; Wolfgang Quint [4]; T. Stöhlker [5]; Gerhard G. Paulus [1]

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Keywords:

Penning trap, laser ionization, strong field, high photon-energy

Topics:

Strong Field and Ultrafast Processe

121

Electron-Positron Pair Production as an Ionization Process

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Keywords:

Electron-positron pair production, QED in strong fields, Kinetic theory, Wigner formalism

Topics:

Strong Field and Ultrafast Processe

122

Atmospheric-pressure argon plasma by two-parallel-wire transmission line resonator

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Keywords:

Atmospheric
Plasma
Two-parallel-wire transmission line resonator

Topics:

Production, Experimental Developments and Applications

123

Results Of The Gamma Factory Test Runs With Highly Charged Xe And Pb Ions In The SPS And LHC Accelerator Rings At CERN

Authors: Simon Hirlaender[1]; Reyes Alemany-Fernandez[1]; Hannes Bartosik[1]; Verena Kain[1]; Nicolo Biancacci[1]; Thomas Bohl[1]; Stephane Cettour Cave[1]; Karel Cornelis[1]; John Jowett[1]; Mieczyslaw Krasny[2]; Mike Lamont[1]; Django Manglunki[1]; Giulia Papotti[1]; Felix Kroeger[3]; Thomas Stoehlker[3]; Guenther Weber[3]; Viacheslaw Petrovich Shevelko[4]

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Keywords:

CERN, partially stripped ions, gamma factory, light source, accelerator physics, lead, xenon

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

124

Photon-ion coincidence system for HIRFL-CSRe Internal target

Authors: Wei Wang[1]; Caojie Shao[1]; Deyang Yu[None]; Junliang Liu[None]; Bian Yang[None]; Xiaoxiao Yuan[None]; Jianguo Wang[None]; Peng Ma[None]; Herun Yang[None]; Xiaohong Cai[None]

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Keywords:

Photon, ion, coincidence, HIRFL-CSRe Internal target

Topics:

Production, Experimental Developments and Applications

125

Influence of Noble Gas and Mirror Magnetic Field on Electron Cyclotron Heated Hydrogen Plasma

Authors: Wenbin Wu[1]; Shixiang Peng[1]; Haitao Ren[1]; Jingfeng Zhang[1]; Tao Zhang[1]; Tenghao Ma[1]; Yaoxiang Jiang[1]; Jiang Sun[1]; Jiamei Wen[1]; Zhiyu Guo[1]; Jiaer Chen[1]

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Keywords:

ECR ion source
plasma
noble gas
magnetic-mirror

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

126

Total electron scattering cross sections from low to high energies in S3 and O3 molecules

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Keywords:

R- matrix, Single Centre Method, Scattering, Polarization, Exchange

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

127

The FISIC-Project –First tests and status report

Author: Daniel Schury[1]

Co-authors: Ajit Kumar ; Alain Méry [2]; J.M. Ramillon ; L. Adoui ; Jean-Yves Chesnel [2]; Anna Lévy ; Stéphane Macé ; Christophe Prigent ; Jimmy Rangama [2]; P. Rousseau ; J.-P. Rozet ; Sebastien Steydli ; Martino Trassinelli ; Dominique Vernhet ; Alexander Gumberidze ; T. Stöhlker [3]; Angela Bräuning-Demian ; C. Hahn ; Uwe Spillmann ; Emily Lamour

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Keywords:

FISIC
Ion-Ion
Collision
Stopping Power
Beamline
Charge State Purification

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

128

High-resolution Wavelength-dispersive Spectroscopy of K-shell Transitions in Hydrogen-like Gold

Authors: Alexandre Gumberidze[None]; Tobias Gassner[None]; Martino Trassinelli[None]; Regina Hess[1]; Uwe Spillmann[1]; Dariusz Banas[2]; Karl-Heinz Blumenhagen[None]; Fritz Bosch[1]; C. Brandau[None]; Weidong Chen[None]; Dimopoulou Christina[1]; Eckhart Förster[None]; Robert Grisenti[1]; Siegbert Hagmann[3]; Pierre-Michel Hillenbrand[4]; Paul Indelicato[5]; Pawel Jagodzinski[6]; Tino Kämpfer[7]; Kozhuharov Christophor[1]; M. Lestinsky[8]; Dieter Liesen[1]; Yuri Litvinov[None]; Robert Lötzsch[7]; Bruno Manil[9]; Fritz Nolden[1]; Nikolaos Petridis[1]; Shahab Sanjari[1]; Kai-Sven Schulze[None]; Max Schwemlein[1]; Alexandre Simionovici[10]; M. Steck[None]; T. Stöhlker[8]; Csilla Szabo-Foster[11]; Sergiy Trotsenko[1]; Ingo Uschmann[7]; Guenther Weber[12]; Ortrud Wehrhan[13]; Nicolas Winckler[1]; Danyal Winters[14]; Natalya Winters[1]; Eric Ziegler[15]; Heinrich Beyer[1]

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Keywords:

X-ray spectroscopy, Crystal spectrometer, Storage ring, QED

Topics:

Fundamental Aspects, Structure and Spectroscopy

129

Exciting Highly Charged Ions at PETRA III Beamline P01

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Keywords:

Eletron beam ion trap
X-ray spectroscopy
synchrotron radiation
K-shell transitions

Topics:

Fundamental Aspects, Structure and Spectroscopy

130

Development of a Frequency Comb for XUV Metrology of Highly Charged Ions

Authors: Janko Nauta[1]; Jan-Hendrik Oelmann[2]; Alexander Ackermann[3]; Julian Stark[1]; Steffen Kühn[1]; Peter Micke[4]; José R. Crespo López-Urrutia[2]; Thomas Pfeifer[5]

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Keywords:

frequency comb
laser spectroscopy
metrology
highly charged ions
high harmonic generation
enhancement cavity

Topics:

Fundamental Aspects, Structure and Spectroscopy

131

Progress Report On A New Experimental Set-up To Measure Emitted Electrons From Metallic Nanoparticles Upon Ion Collision

Authors: Violaine Vizcaino[None]; Nicolas Sens[1]; Michal Ryszka[1]; Alain Méry[1]; Jean-Christophe Poully[2]

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Keywords:

Ion collision, Nanoparticles, electron emission

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

132

A Dual-Anode Miniature Electron Beam Ion Trap to Produce and Extract Highly-Charged Ions with Low Ionization Threshold

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Keywords:

mini-EBIT
HCI
permanent magnet ion trap
ion trap
spectroscopy
EBIT

Topics:

Production, Experimental Developments and Applications

133

Experiments with Multiply-Charged Lanthanide Ions in the NIST EBIT

Authors: Joseph Tan[1]; Aung Sis Naing[2]; Eric Norrgard[3]; Angela Small[4]; Samuel Sanders[5]; Roshani Silwal[5]; Endre Takacs[6]; Yuri Ralchenko[3]

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Keywords:

Spectroscopy
EBIT
EUV
HCI
lanthanide

Topics:

Fundamental Aspects, Structure and Spectroscopy

134

Calculations of the Autoionization States of He- and Li-like Ions by the Complex Scaling method

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Keywords:

He-like and Li-like Ions, Auger Resonances, Complex Scaling method

Topics:

Fundamental Aspects, Structure and Spectroscopy

135

Multi-Electron Processes In MeV/u Mixed-State C4+ (1s2, 1s2s 3S) + He Collisions: Comparison Of AOCC Calculations And Experiments

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Keywords:

high resolution electron spectroscopy
metastable states
Atomic Orbital Coupled Channel (AOCC) calculations
transfer-excitation
double excitation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

136

Systematic Study of Kinetic Energy Distributions of Fragment Ions from Multiply Ionized C2H2n (n=1-3) as Functions of the Charge States

Authors: Shintaro Yoshida[1]; Takuya Majima[1]

Co-authors: Tatsuya Asai [1]; Hidetsugu Tsuchida [1]; Manabu Saito [1]

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Keywords:

Fast ion collision
Coulomb explosion
Molecular fragmentation
Multiple ionization

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

137

Isotope shifts of the 1s^22s2p(J)-1s^22s^2 transition energies in Be-like ions

Authors: Natalia Zubova[1]; Mikhail Kaygorodov[2]; Yury Kozhedub[3]; Aleksei Malyshev[4]; Vladimir Shabaev[3]; Ilya Tupitsyn[3]

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Keywords:

isotope shifts; nuclear charge radius differences; atomic structure

Topics:

Fundamental Aspects, Structure and Spectroscopy

138

Optimization of giant magnetocaloric materials with ion irradiation

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Co-authors: Sophie Cervera [2]; A Bartok [3]; C Carrétéro [4]; Mahmoud Eddrief [1]; Victor Etgens [3]; Vincent Garcia [4]; E Jacquet [4]; Emily Lamour ; Martino LoBue [3]; Anna Lévy ; F Mazaleyrat [3]; Stéphane Macé ; A Pasko [3]; Christophe Prigent ; Sebastien Steydli ; Massimiliano Marangolo [2]

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Keywords:

slow ion collisions
magnetocaloric effect
magnetic refrigeration

Topics:

Interaction with Clusters, Surfaces and Solids

139

Electron Emission from Uracil in Collisions with Fast Bare Carbon Ions

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Keywords:

Ion-molecule collisions,
DDCS,
Biomolecules,
electron spectroscopy

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

140

Ionization, Capture and Transfer-Ionization Processes of Ar Targets by Proton and Antiproton Impact

Authors: Pavel Terekhin[1]; Michele Quinto[2]; Juan Manuel Monti[3]; Omar Fojón[4]; Roberto Rivarola[4]

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Keywords:

Multiple ionization
Electron capture
Transfer-ionization

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

141

Single and Multiple Ionization of Methane Molecules by Antiproton, Proton and Hydrogen-Atom Impact

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Keywords:

Multiple-electron reactions
Molecules

Structured projectiles

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

142

Proton-Induced Multiple-Electron Processes of Pyrimidine

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Keywords:

Multiple-electron processes
Molecular targets
Pyrimidine

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

143

Plasmon Excitation and Subsequent Isomerisation Dynamics In Naphthalene and Azulene Under Fast Proton Interaction

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Keywords:

Plasmon excitation,Azulene,Naphthalene,Isomerization,PAH

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

144

The new HITRAP cooling trap and production of highly charged metallic ions from an EBIT

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Keywords:

HITRAP
ion trap
EBIT

Topics:

Production, Experimental Developments and Applications

145

Measuring The Electron Magnetic Moment In Highly Charged Ions Via Laser-Microwave Double-Resonance Spectroscopy And Studying The Behaviour Of Ion Ensembles In A Penning Trap

Authors: Zhexi Guo[1]; Patrick Baus[2]; Gerhard Birkl[2]; Mohammad Sadegh Ebrahimi[1]; Wolfgang Quint[3]; Manuel Vogel[1]

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Keywords:

electron g factor
magnetic moment
Penning trap
double-resonance spectroscopy
highly charged ions
ion ensembles
laser microwave

Topics:

Fundamental Aspects, Structure and Spectroscopy

146

Enhanced Ar-K X-ray Emission Observed in EBIT at Electron Energies around 6500 eV

Authors: Weronika Biela[1]; Andrzej Warczak[1]

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Keywords:

Electron Beam Ion Trap,
EBIT,
dielectronic recombination,
trielectronic radiative recombination

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

149

Single-electron Capture in slow Collisions of Ne9+ with He and H2

Author: Xiaolong Zhu[1]

Co-authors: Jiawei Xu [1]; Wentian Feng [1]; Ling Liu [2]; Dalong Guo [1]; Yong Gao ; Shaofeng Zhang [1]; Shuncheng Yan [3]; Dongbin Qian [1]; Yong Wu [4]; Dongmei Zhao [1]; Jianguo Wang [4]; Xinwen Ma [1]

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Keywords:

charge transfer, differential cross sections, TC-AOCC, COLTRIMS

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

151

X-RAY SPECTROSCOPY OF n=3 TO n=2 TRANSITIONS IN HIGHLY CHARGED XENON IONS

Authors: Gang Xiong[None]; Yangluojia Su[None]; Yintao Wang[None]; Roger Hutton[None]; Yunqing Fu[None]; Yang Shen[None]; Yang Yang[None]; Jun Xiao[None]; Yaming Zou[None]; Ke Yao[1]

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Keywords:

X-rays, xenon, EBIT

Topics:

Fundamental Aspects, Structure and Spectroscopy

152

Long-Range Dispersion Interactions Between Alkali-Metal And Rare-Gas Atoms

Authors: Deng Hong Zhang[1]; Ya Bin Xu[1]; Jun Jiang[1]; Li Jiang[1]; Lu You Xie[1]; Chen Zhong Dong[1]

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Keywords:

long-range interaction; dispersion coefficients; the relativistic configuration interaction plus core polarization method(RCICP)

Topics:

Fundamental Aspects, Structure and Spectroscopy

153

Angle-dependent Magic Wavelengths For The 4s1/2-3d5/2 Transition Of The Ca+ Ions

Authors: Li Jiang[1]; Jun Jiang[1]; Zhong Wen Wu[1]; Deng Hong Zhang[1]; Lu You Xie[1]; Chen Zhong Dong[1]

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Keywords:

dynamic polarizability, magic wavelength,linear polarized light

Topics:

Fundamental Aspects, Structure and Spectroscopy

154

Single-Particle Detectors For CRYRING@ESR

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Co-authors: M. Lestinsky [3]; Esther Menz [4]; Philip Pfäfflein [5]; Stefan Schippers [6]; Guenther Weber [7]; T. Stöhlker [3]

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Keywords:

CRYRING
FAIR
Particle Detection
Ion Detection
Storage Rings
Instrumentation

Topics:

Production, Experimental Developments and Applications

155

PROPOSAL OF HIGHLY ACCURATE TESTS OF BREIT AND QED EFFECTS IN THE GROUND STATE 2p5 OF THE F-LIKE ISOELECTRONIC SEQUENCE

Authors: Meichun Li[1]; Ran Si[2]; Yaming Zou[3]

Co-authors: Roger Hutton [3]; Tomas Brage [4]

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Keywords:

layzer complex, QED, F-like isoelectronic sequence

Topics:

Fundamental Aspects, Structure and Spectroscopy

156

Design of Penning Trap for High Intensity Laser Ions Experiment

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Keywords:

Penning Trap, Cylindrical Penning Trap, Multiphoton ionization, Axial resonator

Topics:

Production, Experimental Developments and Applications

158

Probing Scattering Phases in Ion-molecule Collisions

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Keywords:

ion-atom collisions, scattering phase,

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

159

Status of the cryogenic ion storage ring RICE

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Co-authors: Ryo Igosawa ; Shimpei Iida ; Shinji Okada [2]; Mathew Lindly ; Menk Sebastian ; Hashimoto Tadashi ; Nagaoka Ryosuke ; Yamada Shinya ; Takayuki Yamaguchi ; Susumu Kuma ; Toshiyuki Azuma [2]

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Keywords:

electrostatic storage ring

Topics:

Production, Experimental Developments and Applications

160

Radiative Lifetime Measurement of Metastable Levels in Kr3+ Using Electrostatic Ion Beam Trap

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Co-authors: Manabu Saito [2]; Takuya Majima [1]; Makoto Imai [1]; Hidetsugu Tsuchida [1]; Yoichi Haruyama [3]

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Keywords:

Radiative lifetime
Electrostatic ion beam trap
Metastable levels in triply charged Kr

Topics:

Fundamental Aspects, Structure and Spectroscopy

161

High-Precision Mass Measurements of Highly Charged Xenon Isotopes with PENTATRAP

Authors: Menno Door[None]; Sergey Eliseev[1]; José R. Crespo López-Urrutia[1]; Pavel Filianin[1]; Kathrin Kromer[1]; Yuri N. Novikov[2]; Alexander Rischka[1]; Rima X. Schüssler[1]; Christoph Schweiger[1]; Sven Sturm[1]; Stefan Ulmer[3]; Klaus Blaum[1]

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Keywords:

high-precision mass spectrometry
Penning trap mass spectrometry
precision tests of fundamental physicst
test of bound-state QED

test of special relativity
neutrino physics

Topics:

Fundamental Aspects, Structure and Spectroscopy

162

Extreme Ultraviolet Emission Spectra of Highly Charged Sb Ions

Authors: Shiquan Cao[1]; Qi Min[1]; Duixiong Sun[None]; Bo Wang[None]; Lei Wu[None]; Siqi He[None]; Pengpeng Ma[None]; Kaiping Wang[None]; Haidong Lu[None]

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Keywords:

Highly Charged Ions, Laser Produced Plasmas, Extreme Ultraviolet Emission

Topics:

Fundamental Aspects, Structure and Spectroscopy

163

Revised and Extended Analysis of fifth Spectrum of Cerium: Ce V

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Keywords:

ENERGY LEVELS, WAVELENGTH, COWAN CODE, SPECTROGRAPH

Topics:

Fundamental Aspects, Structure and Spectroscopy

164

Development of a high temperature superconducting magnet for use in a cryogen-free electron beam ion trap

Authors: Toshihiro Tamai[1]; Hiroyuki Sakaue[2]; Yoshiro Terazaki[3]; Nagato Yanagi[3]; Nobuyuki Nakamura[1]

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Keywords:

electron beam ion trap
high temperature superconducting magnet
cryogen-free

Topics:

Production, Experimental Developments and Applications

165

Visible spectra of heavy ions with an open 4f shell

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Keywords:

visible spectra
4f open shell
metrology

Topics:

Fundamental Aspects, Structure and Spectroscopy

166

Resonant electron impact excitation of highly charged Fe ions studied with a compact electron beam ion trap

Authors: Masashi Monobe[1]; Takashi Tsuda[1]; Hiroyuki Sakaue[2]; Daiji Kato[3]; Izumi Murakami[3]; Hirohisa Hara[4]; Tetsuya Watanabe[4]; Nobuyuki Nakamura[1]

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Keywords:

resonant excitation
iron ions
electron beam ion trap

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

167

X-ray Emission Via K Resonance Complexes In Gold Ions

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Keywords:

atomic data, electron-collision, photoionization, R-matrix

Topics:

Fundamental Aspects, Structure and Spectroscopy

168

Measurement Of The Linear Polarization Of Radiative Electron Capture

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Co-authors: Günter Weber [2]; Uwe Spillmann [3]; T. Stöhlker

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Keywords:

Compton Polarimetry
X-Ray Spectroscopy
REC Radiation
Storage Rings
Semiconductor Detectors

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

169

High-resolution tungsten spectroscopy relevant to the diagnostic of high-temperature tokamak plasmas

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Keywords:

Tungsten spectroscopy in X-ray
EBIT
Tokamak

Topics:

Fundamental Aspects, Structure and Spectroscopy

170

A Fluorescence Detection System for Laser Spectroscopy at CRYRING@ESR

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Co-authors: Christian Huhmann [2]; Christian Weinheimer ; Konstantin Mohr ; Volker Hannen ; Wilfried Nörtershäuser [3]; Zoran Andelkovic [4]

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Keywords:

CRYRING
Laser Spectroscopy
Detector Development
Instrumentation
Atomic Physics

Topics:

Production, Experimental Developments and Applications

171

Novel Approach to Heavy Ion X-Ray Spectroscopy using a Microcalorimeter Detector at an Electron Beam Ion Trap

Authors: Marc Oliver Herdrich[1]; Andreas Fleischmann[2]; Daniel Hengstler[2]; Steffen Allgeier[2]; Sergiy Trotsenko[3]; Tino Morgenroth[4]; Christian Enss[2]; Thomas Stöhlker[5]

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Keywords:

x-ray
spectroscopy
calorimeter
ebit

Topics:

Fundamental Aspects, Structure and Spectroscopy

172

Formation of Quasi-Molecules in Adiabatic Heavy Ion Atom Collisions

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Co-authors: Punita Verma [2]; Kajol Chakraborty [1]; Ch. Vikar Ahmad [1]; Anjali Rani [3]; Samit Kumar Mandal [3]; Deepak Swami [4]; Akhil Jhingan [4]

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Keywords:

quasi-molecules, adiabatic, correlation diagrams

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

173

Delayed ionic dissociation of doubly ionized ethylene produced by highly-charged ion collision

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Keywords:

HCI-molecule collision
fragmentation
delayed process
organic molecule

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

174

High-Precision Theory Of The Bound-Fermion g-Factor

Authors: Bastian Sikora[None]; Vladimir A. Yerokhin[None]; Natalia S. Oreshkina[None]; Halil Cakir[None]; Niklas Michel[None]; Vincent Debierre[None]; Nikolay A. Belov[None]; Christoph H. Keitel[None]; Zoltan Harman[None]

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Keywords:

Hydrogenlike Ions
High-Precision Theory
QED Corrections
g-Factor
Muonic Ions

Topics:

Fundamental Aspects, Structure and Spectroscopy

175

A Compact Electron Beam Ion Trap for X-ray Light Sources

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Keywords:

electron beam ion trap
synchrotron
X-ray light sources
few-electron ions
calibration
compact ion trap

Topics:

Production, Experimental Developments and Applications

176

Interactions Of Highly Energetic Tin Ions With Plasma-Facing Materials In EUV Light Source

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Keywords:

tin ions
EUV light source
plasma facing material

Topics:

Interaction with Clusters, Surfaces and Solids

177

Proton and electron impact excitation cross sections for hydrogenlike uranium

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Keywords:

Electron Impact Excitation, Proton Impact Exciation, Heavy Ion

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

178

Charge Exchange Spectroscopy for Multiply Charged Ions of Heavy Elements in the Extreme Ultra-Violet Region

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Keywords:

Charge exchange spectroscopy
EUV photo-emission spectra of heavy elements
r-process in neutron star mergers

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

179

Results From The Commissioning Of A Detection System For Forward Emitted XUV Photons At The ESR

Author: Daniel Winzen[1]

Co-authors: Michael Bussmann [2]; Axel Buß [3]; Christian Egelkamp [1]; Lewin Eidam [4]; V. Hannen ; Zhongkui Huang [5]; Daniel Kiefer [4]; Sebastian Klammes [4]; Thomas Kühl [6]; Markus Loeser [7]; Xinwen Ma [5]; Wilfried Nörtershäuser [4]; Hans-Werner Ortjohann [1]; Rodolfo Sánchez [6]; Mathias Siebold [2]; T. Stöhlker [8]; J. Ullmann ; J. Vollbrecht ; Thomas Walther [4]; Hanbing Wang [9]; C. Weinheimer ; Danyal Winters [10]

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Keywords:

laser spectroscopy
detector development
ESR
XUV

Topics:

Production, Experimental Developments and Applications

180

Ground-State Energy of Heavy Diatomic Homonuclear Quasimolecules

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Keywords:

Quasimolecules
Quantum electrodynamics
Two-center Dirac equation
Electron-electron interaction

Topics:

Fundamental Aspects, Structure and Spectroscopy

181

Strong Higher-order Resonant Contributions to X-ray Polarization of the Ground and Metastable States of B-like Silicon Ions

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Keywords:

Dielectronic recombination; Resonance strength;polarization

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

182

Charge Exchange Spectroscopy in Collisions between Metastable He-like Ions (1s2s 3S) and Neutrals

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Co-author: Hajime Tanuma [1]

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Keywords:

charge exchange collisions
soft X-ray spectroscopy
inner-shell-excited states

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

183

Influence of Electron Correlations on the Electron Impact Excitation of the 4 1P1 State of Zinc Atom

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Keywords:

Electron impact excitation; Cross sections; Stokes parameter

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

184

Development of Laser Ion Source at IMP

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Keywords:

Laser
Ion Source
high chareged state

Topics:

Production, Experimental Developments and Applications

185

Applications of the Internal Multiphase Target

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Keywords:

internal target
fluid expansion
storage rings

Topics:

Production, Experimental Developments and Applications

186

Ab Initio Lifetimes for QED Sensitive Transitions in Highly Charged Ions

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Keywords:

Relativistic & quantum electrodynamic effects in atoms
Electron correlation calculations for atoms & ions
M1 transition rates

Topics:

Fundamental Aspects, Structure and Spectroscopy

187

Opportunities For Measurements Of Astrophysical Relevant Alpha Capture Reaction Rates At CRYRING

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Co-authors: D. Bemmerer ; T.E. Cowan ; R. Dressler ; A.R. Junghans ; D. Schumann ; T. Stöhlker [2]; T. Szücs ; A. Wagner ; K. Zuber

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Keywords:

Nuclear Astrophysics
Storage Rings
EBIS Ion Source

Topics:

Production, Experimental Developments and Applications

188

Dynamically assisted Schwinger effect beyond the spatially-homogeneous-field approximation

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Keywords:

Schwinger effect
Pair production
Laser fields
Non-perturbative methods

Topics:

Strong Field and Ultrafast Processe

189

Scattering Of Twisted Electrons By Bare Nuclei

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Keywords:

twisted electrons, elastic scattering

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

190

Investigation of Triply Excited States in Dielectronic Recombination with Excited Two-Electron Uranium

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Keywords:

dielectronic recombination
electron-ion collisions
QED

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

191

THE ENERGY LEVEL STRUCTURE OF TRIPLY CHARGED TIN IONS

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Keywords:

SnIV
Sn3+
optical spectroscopy
electronic structure

Topics:

Fundamental Aspects, Structure and Spectroscopy

193

EUV EMISSION FROM HIGHLY CHARGED TIN IONS IN AN EBIT

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Co-authors: Chintan Shah [2]; H Bekker [3]; A Windberger [1]; F Torretti [1]; W Ubachs [4]; R Hoekstra [5]; José R. Crespo López-Urrutia [6]; O O Versolato [7]

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Keywords:

EUV
EBIT
Sn plasma

Topics:

Fundamental Aspects, Structure and Spectroscopy

194

X-ray crystal optics at the S-EBIT Facility

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Keywords:

EBIT, x-ray, spectroscopy

Topics:

Production, Experimental Developments and Applications

195

Isotope Shifts for the 2P3/2-1/2 Transition in AK2+

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Keywords:

isotope shift, relativistic quantum theory

Topics:

Fundamental Aspects, Structure and Spectroscopy

196

Pair production in supercritical collisions of heavy ions

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Keywords:

heavy-ion collisions, supercritical field

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

197

Towards Laser Spectroscopy at CRYRING@ESR

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Co-authors: V. Hannen ; Tim Ratajczyk [1]; Zoran Andelkovic [2]; Axel Buß [3]; Rodolfo Sánchez [4]; Wilfried Nörtershäuser [1]; Aineah Wekesa Barasa [1]

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Keywords:

laser spectroscopy
optical pumping
polarized ion beams

Topics:

Fundamental Aspects, Structure and Spectroscopy

198

Two-Quantum Annihilation of Positrons with Bound Electrons

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Co-authors: Andrey Volotka [2]; Stephan Fritzsche [3]; deyang Yu [4]; Xinwen Ma [4]; Vladimir Shabaev [5]

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Keywords:

annihilation, positrons, bound electrons

Topics:

Fundamental Aspects, Structure and Spectroscopy

199

g factor of Boronlike Ions: Relativistic and QED Effects

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Keywords:

g factor, bound-state QED, boronlike ions

Topics:

Fundamental Aspects, Structure and Spectroscopy

200

Theoretical study of TEOP transitions in He-like highly charged ions

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Keywords:

TEOP, transition probabilities, dielectronic recombination, He-like ions, QED

Topics:

Fundamental Aspects, Structure and Spectroscopy

201

Technological Progress in Compton Polarimetry

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Keywords:

Compton Polarimetry
X-ray

Topics:

Production, Experimental Developments and Applications

203

Coherent and incoherent calculation of fully differential cross sections for the ionization of He by fast ions

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Keywords:

ionization, fast collision, fully differential cross section

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

204

Measurements of Electron Impact Excitation Cross Sections of X-ray transitions in Highly Charged Potassium

Author: Greg Brown[1]

Co-authors: Gabriele Betancourt-Martinez [2]; Esra Bulbul [3]; Adam Foster [3]; Natalie Hell [4]; Richard Kelley [5]; Caroline Kilbourne [5]; Maurice Leutenegger [5]; Tom Lockard [4]; F. Scott Porter [5]; Randall Smith [3]; Beiersdorfer Peter [4]

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Keywords:

atomic physics
x-ray spectroscopy
laboratory astrophysics

Topics:

Fundamental Aspects, Structure and Spectroscopy

205

A Sneak Peek At The Future Highly Charged Ions Research Program With CRYRING@ESR

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Keywords:

Storage ring facility
Research program
Highly charged ions

Topics:

Production, Experimental Developments and Applications

208

Zeeman Effect in Few-Electron Ions: g Factor, Nonlinear Terms and Nuclear Magnetic Shielding

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Keywords:

Zeeman effect
g factor
nuclear magnetic shielding
bound-state QED

Topics:

Fundamental Aspects, Structure and Spectroscopy

209

Na-like Ion Spectroscopy for Determining Nuclear Charge Radius Change Between Isotopes

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Keywords:

Na-like ions
spectroscopy
extreme ultraviolet
EUV
nuclear radius
electron beam ion trap
EBIT

Topics:

Fundamental Aspects, Structure and Spectroscopy

210

Experimental Determination of Electron Capture Cross Sections into Excited States of Decelerated Xenon Projectiles

Author: Felix Kröger[None]

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Keywords:

Photon spectrum,
Electron capture,
NRC cross sections,
CRYRING@ESR

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

211

New Calibration References for X-ray Light Sources Based on Highly Charged Ions

Author: Steffen Kühn[1]

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Keywords:

X-Ray Laser Spectroscopy
Highly Charged Ions
Electron Beam Ion Trap
Off-Axis Electron Gun

Topics:

Production, Experimental Developments and Applications

212

Charge State Tailoring of Relativistic Heavy Ion Beams for FAIR and CERN

Author: Felix Kröger[None]

Co-authors: Guenther Weber [1]; Viacheslaw Petrovich Shevelko [2]; Thomas Stoehlker [1]

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Keywords:

Charge state evolution,
Stripping,
FAIR,
CERN,
Gamma Factory

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

213

PIXE Induced by Medium Energy Heavy Ions in Application to Analysis of Thin Films and Subsurface Regions

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Keywords:

PIXE - particle induced X-ray emission, thin film, elemental composition

Topics:

Interaction with Clusters, Surfaces and Solids

214

A high resolution von Hamos X-ray spectrometer based on a segmented crystal for low energy spectroscopy at the CRYRING@FAIR

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Co-authors: Marek Pajek [2]; Dariusz Banas [3]; Andrzej Warczak [4]; Aldona Kubala-Kukuś [2]; Ilona Stabrawa [2]; Łukasz Jabłoński [5]; Daniel Sobota [2]; Karol Szary [2]

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Keywords:

von Hamos X-ray spectrometer, CRYRING@FAIR, Radiative Recombination

Topics:

Fundamental Aspects, Structure and Spectroscopy

215

Nuclear Excitation In The Two-Photon Decay Of Highly Charged Ions

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Keywords:

nuclear excitation, two-photon decay

Topics:

Fundamental Aspects, Structure and Spectroscopy

216

Microscopic Liquid Jets: from supercooled liquid water to superfluid helium

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Keywords:

cryogenic beams, droplet jets

Topics:

Interaction with Clusters, Surfaces and Solids

217

Interpretation of X-ray Emission in Interaction of Slow Highly Charged Xe Ions with Be Surface

Author: Łukasz Jabłoński[1]

Co-authors: Dariusz Banas [2]; Pawel Jagodzinski [3]; Aldona Kubala-Kukuś [1]; Daniel Sobota [1]; Ilona Stabrawa [1]; Karol Szary [1]; Marek Pajek [1]

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Keywords:

highly charged ions,
ion-surface interactions,
internal dielectronic excitation

Topics:

Interaction with Clusters, Surfaces and Solids

218

Investigation of metastable levels in highly charged Tungsten ions at Shanghai EBITs

Author: Jun Xiao[1]

Co-authors: Bingsheng Tu [1]; Ke Yao [1]; Yang Yang [1]; Meichun Li [1]; Yang Shen [1]; Yunqing Fu [1]; Baoren Wei [1]; Chongyang Chen [1]; Roger Hutton [1]; Yaming Zou [1]

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Keywords:

EBIT, Metastable levels, Tungsten

Topics:

Fundamental Aspects, Structure and Spectroscopy

219

Fission of multiply charged divalent-metal clusters

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Keywords:

cluster fission

Topics:

Interaction with Clusters, Surfaces and Solids

220

Overview of the HCI Spectroscopy Program at the NIST Electron Beam Ion Trap

Authors: Yuri Ralchenko[1]; Dipti[2]; Alexander Borovik[3]; Joan Dreiling[4]; Amy Gall[5]; John Gillaspy[6]; Deirdre Kilbane[7]; Aung Sis Naing[8]; Eric Norrgard[9]; Dmitry Osin[10]; Yuri Podpaly[11]; Joseph Reader[1]; Samuel Sanders[5]; Angela Small[12]; Endre Takacs[13]; Joseph Tan[4]

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Keywords:

EBIT
Mid- and high-Z elements
EUV and x-ray spectra
Collisional-radiative modeling

Topics:

Fundamental Aspects, Structure and Spectroscopy

222

Hyperfine Structure of Some Multicharged Ions within Relativistic Many-Body Perturbation Theory

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Keywords:

Hyperfine Structure
Multicharged Ions
Relativistic Theory

Topics:

Fundamental Aspects, Structure and Spectroscopy

223

NEET and "Shake up"Effects in Laser Electron-Gamma-Nuclear Spectroscopy of Multicharged Ions

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Keywords:

"Shake up"Effects
Multicharged Ions
Gamma-Nuclear Spectroscopy

Topics:

Interactions with Photons and Plasmas

224

Electron-Collisional Spectroscopy of Multicharged Ions in Plasmas: Relativistic Energy Approach

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Keywords:

Electron-Collisional Spectroscopy
Multicharged Ions
Plasmas

Topics:

Interactions with Photons and Plasmas

225

Multi-photon Spectroscopy of the Debye Plasmas Multicharged Ions in One- and Two-Colour Laser Fields

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Keywords:

Multi-photon Spectroscopy
Plasmas
Multicharged Ions

Topics:

Interactions with Photons and Plasmas

226

Resonance Phenomena in Heavy Multicharged Ions Collisions: Operator Perturbation Theory and Relativistic Energy Approach

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Keywords:

Heavy Ions Collisions
Resonance Phenomena
Relativistic Energy Approach

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

227

Stark Effect, Multiphoton and Autoionization Resonances in Spectra of Multicharged Ions in a Strong Electromagnetic Field

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Keywords:

Multicharged Ions
Stark Effect
Multiphoton Resonances

Topics:

Strong Field and Ultrafast Processe

228

Computing Radiative Spectroscopic Parameters for Li-like Multicharged Ions within Model Potential Method and Energy Approach

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Keywords:

Radiative Parameters
Li-like Multicharged Ions
Energy Approach

Topics:

Fundamental Aspects, Structure and Spectroscopy

229

Relativistic Computing Excited and Autoionizing States Spectroscopic Parameters for He-like Multicharged Ions

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Keywords:

Relativistic Computing
Autoionizing States
He-like Multicharged Ions

Topics:

Fundamental Aspects, Structure and Spectroscopy

230

Two-electron one-photon transitions in He-like Ar

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Keywords:

Radiative transition
electron correlation
MCDF

Topics:

Fundamental Aspects, Structure and Spectroscopy

231

On the Line intensities of Pm-like Bi

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Keywords:

spectroscopy
relativity
x-radiation

Topics:

Fundamental Aspects, Structure and Spectroscopy

232

Measurement of Surface Wakefield Intensity for 1s3s 3S1 state in He-like Ti

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Keywords:

Beam-foil spectroscopy, stark mixing, time-of-flight measurement,

Topics:

Fundamental Aspects, Structure and Spectroscopy

233

Detection of cascading states and time-of-flight method

Authors: gaurav sharma[1]; Sarvesh Kumar[2]; nitin K puri[3]; TAPAN Nandi[4]

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Keywords:

x-ray spectroscopy, time-of-flight measurement,circular rydberg states

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Ion Emission from CO2 Laser Produced Tin Plasmas

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Keywords:

CO2 Laser Produced Plasma
Ion Probe Experiment
Plasma Simulations

Topics:

Interactions with Photons and Plasmas

237

Study of Soft X-ray Light Sources with High Radiance

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Keywords:

Plasma Emission
Light Source
Soft x-ray

Topics:

Interactions with Photons and Plasmas

238

EUV Spectroscopy of Optically Thin Ge VI-XI Plasmas in the 9-18 nm Region.

Author: Oisin Maguire[1]

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Keywords:

Spectroscopy
Laser Produced Plasmas
Germanium

Topics:

Fundamental Aspects, Structure and Spectroscopy

239

Spectroscopy of Strontium Ions in the Soft X-ray Region

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Keywords:

Spectroscopy
Laser Produced Plasmas
Soft x-ray
Strontium

Topics:

Fundamental Aspects, Structure and Spectroscopy

240

Study of Light Sources in the Soft X-ray Region

Author: Mateusz Olszewski[1]

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Keywords:

Laser Produced Plasma
Soft x-ray
Light Source

Topics:

Production, Experimental Developments and Applications

241

Emission From Highly-Charged Ions as a Diagnostic of Laser Produced Plasma Conditions

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Keywords:

Laser Produced Plasma
Plasma Models
Inner-shell Spectra

Topics:

Interactions with Photons and Plasmas

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Laboratory Measurements Compellingly Support a Charge-Exchange Mechanism for the Dark Matter ~3.5 keV X-ray Line

Authors: Chintan Shah[1]; Stepan Dobrodey[1]

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Keywords:

K-shell emission; dark matter; charge exchange

Topics:

Fundamental Aspects, Structure and Spectroscopy

243

Polarization of K-shell Dielectronic Recombination Satellite Lines of Fe XIX- XXV

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Keywords:

K-shell emission; polarization; dielectronic recombination

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

244

Search for Technetium in Extremely Hot Evolved Stars

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Keywords:

nucleosynthesis; atomic structure; plasma modelling

Topics:

Fundamental Aspects, Structure and Spectroscopy

246

Dynamics of C2H23+→H++H++C2+ investigated by 50-keV/u Ne8+ impact

Authors: Xu S.Y.[1]; Zhu X.L.[2]; Feng W. T. [2]; Guo D. L. [2]; Zhao Q. [3]; Yan S.[2]; Zhang P.[2]; Zhao D.M.[3]; Gao Y.[3]; Zhang S.F.[2]; Yang J.[3]; Ren Xueguang[4]; Ma X.[2]

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Keywords:

ion-collision
C2H2
Three-body fragmentation

Topics:

Collisions with Electrons, Ions, Atoms and Molecules

252

Spectroscopic Analysis of an Indium -Tin Plasma Produced By A Pulsed Laser System

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Keywords:

Indium - Tin plasma, laser ablation, optical emission spectroscopy, electron temperature, and number density (Ne).

Topics:

Interactions with Photons and Plasmas

264

Theoretical Line Energies and Fluorescence Yields of Ne-like and Ar-like Ions

Authors: José Marques[None]; Jorge Miguel Sampaio[1]; José Paulo Santos[2]; Mauro Guerra[1]; Paul Indelicato[3]; Fernando Parente[1]

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Keywords:

Fluorescence Yields

Topics:

Fundamental Aspects, Structure and Spectroscopy

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Activities at the IAEA on Data for Plasma-Material Interaction in Fusion Devices

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Keywords:

nuclear fusion
atomic and molecular processes
plasma-material interaction

Topics:

Production, Experimental Developments and Applications