

14th International Conference on the Physics of Highly Charged Ions 2008

(HCI 2008)

Journal of Physics: Conference Series Volume 163

**Tokyo, Japan
1-5 September 2008**

Editors:

**Toshiyuki Azuma
Nobuyuki Nakamura**

Chikashi Yamada

ISBN: 978-1-61738-371-7

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571
www.proceedings.com

Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2008) by the Institute of Physics
All rights reserved.

Printed by Curran Associates, Inc. (2010)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.org

TABLE OF CONTENTS

REVIEWS AND PROGRESS REPORTS

Astrophysical Relevance of Storage-ring Electron-ion Recombination Experiments	1
<i>S Schippers</i>	
Spectroscopy of Highly Charged Ions in Solar and Astrophysical Plasmas	9
<i>T Watanabe</i>	
Emission and Absorption in Laser Produced Plasmas: Processes and Applications	17
<i>G O'Sullivan, A Cummings, C Z Dong, P Dunne, P Hayden, O Morris, E Sokell, F O'Reilly, M G Su, J White</i>	
Non-statistical Population of $1s2s2p^4PJ$ States by Charge Transfer Into Multiply Charged Ions	25
<i>T J M Zouros, Bela Sulik, L Gulyas, K Tökési</i>	
Fragmentation and Desorption in Low-energy Highly Charged Ion Collisions with Molecules and Surfaces	31
<i>K Motohashi</i>	
Progress of the Spectroscopy Research Platform at the Shanghai Electron Beam Ion Trap	37
<i>R Hutton, Ke Yao, Jun Xiao, Yang Yang, Di Lu, Yang Shen, Yunqing Fu, Xuemei Zhang, Y Zou</i>	
Two-loop QED Contributions Tests with Mid-Z He-like Ions	44
<i>K Kubicek, H Bruhns, J Braun, J R Crespo López-Urrutia, J Ullrich</i>	
Theoretical Progress in Studying the Characteristic X-ray Emission from Heavy Few-electron Ions	50
<i>Andrey Surzhykov, S Fritzsche, Nikolai M Kabachnik, Thomas Stöhlker</i>	
Momentum Distribution of Highly Charged Ions Formed by Strong Laser Fields	56
<i>S Yoshida, K I Dimitriou, J Burgdörfer, H Shimada, H Oyama, Y Yamazaki</i>	

FUNDAMENTAL ASPECTS, STRUCTURE AND SPECTROSCOPY

Microcalorimeter Observations of L-shell Spectra of Ne- Through Fe-like Au Ions in an EBIT	62
<i>E Träbert, S B Hansen, G V Brown, P Beiersdorfer, K Widmann, H K Chung</i>	
Quasirelativistic Ab Initio Study of Gallium Like Molybdenum and Tungsten	66
<i>O Rancova, P Bogdanovich, R Karpuskiene</i>	
The Hyperfine Quenching of Polarized Two-electron Ions in an External Magnetic Field	70
<i>A Bondarevskaya, A Prozorov, L Labzowsky, G Plunien, D Liesen, F Bosch</i>	
Hyperfine Dependent Lifetimes in Neon Like Ions	74
<i>M Andersson, R Hutton, Y Zou</i>	
QED Calculation of Interelectron Interaction Corrections for Transition Probabilities in Two-electron Ions	78
<i>Oleg Yu Andreev, L Labzowsky, G Plunien</i>	
The $1P^o$ Resonant States of LiII Between the $N = 2$ and 3 Thresholds	82
<i>Ming-Keh Chen</i>	
Observation and Modelling of Hollow Multicharged Ion X-ray Spectra Radiated by Laser Produced Plasma	86
<i>A Ya Faenov, T A Pikuz, I Yu Skobelev, Y Fukuda, J Colgan, J Abdallah Jr</i>	
A Tale of Two Lines: Searching for the $5s - 5p$ Resonance Lines in Pm-like Ion Spectra	90
<i>E Träbert, M J Vilkas, Y Ishikawa</i>	
Spectroscopy of Multiply Charged Titanium Ions in High-density Magnetic Fusion Plasmas	94
<i>J Clementson, P Beiersdorfer, Reginald D Wood</i>	
EUV Spectra from Highly Charged Tin Ions Observed in Low Density Plasmas in LHD	98
<i>C Suzuki, T Kato, K Sato, N Tamura, D Kato, S Sudo, N Yamamoto, H Tanuma, H Ohashi, S Suda, G O'Sullivan, A Sasaki</i>	
EUV Spectroscopy of Highly Charged Iron Ions with a Low Energy Compact EBIT	102
<i>H A Sakaue, D Kato, N Nakamura, E Watanabe, N Yamamoto, C Chen, T Watanabe</i>	
Measurement of the $K\beta_2/K\beta_1$ Ratio in Heliumlike Krypton	106
<i>P Beiersdorfer, M F Gu, G V Brown, H Chen, R Kelley, C A Kilbourne, F S Porter, A J Smith, D Thorn</i>	
Survey of the K-shell Emission from Heliumlike Ions with an X-ray Microcalorimeter	110
<i>P Beiersdorfer, G V Brown, J Clementson, M Frankel, M F Gu, S Kahn, R Kelley, C A Kilbourne, F S Porter, D Thorn, E Träbert</i>	
Analysis of EUV Spectra from Highly Charged Iron Ions with a Compact EBIT	114
<i>N Yamamoto, H A Sakaue, D Kato, I Murakami, T Kato, N Nakamura, E Watanabe, H Nishimura, T Watanabe</i>	

Energy Levels, Oscillator Strengths, and Effective Collision Strengths for Transitions in Fe XIV	118
<i>K M Aggarwal, T Kato, F P Keenan</i>	
Study of Inter Sub-shell and Inter Shell Electron Correlations in 4d Open-shell Heavy Atomic Ions	122
<i>Fumihiko Koike</i>	
Doppler-tuned Bragg Spectroscopy of Excited Levels in He-like Uranium: A Discussion of the Uncertainty Contributions	126
<i>M Trassinelli, A Kumar, H F Beyer, P Indelicato, R Martin, R Reuschl, Th Stöhlker</i>	
Two-photon Decay in Highly Charged Heavy Ions: Spectral Shape of the 2E1 ($2^1S_0 \rightarrow 1^1S_0$) in He-like Tin	131
<i>A Kumar, S Trotsenko, A V Volotka, D Banas, H F Beyer, H Bräuning, S Fritzsche, A Gumberidze, S Hagmann, S Hess, C Kozhuharov, G Plunien, R Reuschl, U Spillmann, M Trassinelli, G Weber, Th Stöhlker</i>	

COLLISIONS WITH ELECTRONS, IONS, ATOMS AND MOLECULES

Experimental Rate Coefficient for Dielectronic Recombination of Neonlike Iron Forming Sodiumlike Iron	135
<i>E W Schmidt, D Bernhardt, J Hoffmann, M Lestinsky, D V Lukic, A Müller, D A Orlov, D W Savin, S Schippers, A Wolf</i>	
Evaluation of Direct Ionization Cross Sections for C_{60} by Electron Interaction	139
<i>Neeraj Kumar, Satyendra Pal</i>	
Determination of Angular Cross Sections for Electron Dissociative Ionization of the CCl_4 Molecule	143
<i>Satyendra Pal, Anshu, Neeraj Kumar</i>	
The First Test Experiment Performed at the Electron Cooler of Storage Rings in Lanzhou	147
<i>L J Meng, X Ma, H P Liu, X D Yang, J W Xia, H Xu, Z G Hu, X L Zhu, M Wang, R S Mao, D C Zhang, L J Mao, J Li, G H Li, Y Liu, J Yang, Y J Yuan, J H Zheng, X T Yang, G Q Xiao, W L Zhan</i>	
Angular Momentum Transfer and Polarization Degree of Ions with One-valence Electron by Electron Impact	151
<i>Kenichi Akita, T Kai, Shinobu Nakazaki, Akinori Igarashi</i>	
Effective Collision Strengths for Mg-like Iron Peak Ions	155
<i>P H Norrington, C E Hudson</i>	
Dielectronic and Radiative Recombination of Si- to N-like Tungsten Ions	159
<i>C Biedermann, R Radtke, R Seidel, E Behar</i>	
Effects of Electron-impact Ionization on the Damage to Biomolecules Irradiated by XFEL	163
<i>T Kai, K Moribayashi</i>	
High-energy Electron-impact Excitation Cross Sections of Hydrogenlike Iron and Nickel Ions	167
<i>D Thorn, P Beiersdorfer, G V Brown, R Kelley, C A Kilbourne, F S Porter</i>	
Angular Momentum Transfer and Polarization Degree of Ions with Two-valence Electrons by Electron Impact	171
<i>Kenichi Akita, T Kai, Shinobu Nakazaki, Akinori Igarashi</i>	
Excitation Rates for Transitions in Kr XXXII	175
<i>K M Aggarwal, F P Keenan, K D Lawson</i>	
Structure Deformation Dynamics of Acetylene Molecules Following Electron Loss and Capture Collisions of 6 MeV O^{4+} Ions	179
<i>T Mizuno, T Yamada, H Tsuchida, Y Nakai, A Itoh</i>	
Systematic Multiconfiguration Dirac-fock Method Study of the K-X-Ray Spectra of Silicon	183
<i>K Slabkowska, M Polasik</i>	
Electron Angular Distributions in He Single Ionization Impact by H_2^+ Ions at 1 MeV	187
<i>S F Zhang, J Suske, D Fischer, K U Kuehnel, S Hagmann, A Voitkiv, B Najjaril, A Krauss, R Moshhammer, J Ullrich, X Ma</i>	
State-selective Differential Cross Section Measurements for the One-electron Capture Processes in the F^{4+} - He, Ne, Ar Systems at $E_{lab} = 45$ eV	191
<i>Y Itoh, K Ohtsuki</i>	
Recoil Momentum of Molecular Ions in Collisions of $Ar^{6+}+N_2$ at Energies Below 300 eV/u	195
<i>Y Inoue, K Ishii, H Ogawa</i>	
Interference Effects in Electron Emission Spectra for 3 MeV/u $H^+ + O_2$ Collisions	199
<i>M Winkworth, P D Fainstein, M E Galassi, J Baran, S Das, B S Dassanayake, A Kayani, J A Tanis</i>	
Electron Capture from Excited Hydrogen Atoms by Highly Charged Beryllium and Carbon Ions	203
<i>N Shimakura, N Kobayashi, M Honma, T Nakano, H Kubo</i>	
Isotope Effect in the Dissociation of Methanol Dications Produced by Collision with Ar^{8+}	207
<i>K Hayakawa, J Matsumoto, H Shiromaru, Y Achiba</i>	
Analysis of Charge-asymmetric Coulomb Explosion of N_2 Molecules with Slow Kr^{8+} Ions	211
<i>Tomoko Ohyama-Yamaguchi, Atsushi Ichimura</i>	

Coster-Kronig Electrons from N^{q+} ($q = 1-3$) and O^{q+} ($q = 1,2$) Rydberg States Produced in High-energy Collisions with He	215
<i>K Kawatsura, K Takahiro, M Sataka, M Imai, H Sugai, K Ozaki, K Kawaguchi, H Shibata, K Komaki</i>	
Theoretical Predictions of the Structure of M-X-ray Lines of Heavy Atoms	221
<i>P Matuszak, K Koziol, M Polasik, K Slabkowska</i>	
Influence of Changes in the Valence Electronic Configuration on the Structure of L-X-ray Spectra of Molybdenum	225
<i>M Polasik, K Koziol, K Slabkowska, M Czarnota, M Pajek</i>	
X-ray Signatures of Charge Exchange in L-shell Iron and Sulfur	229
<i>M Frankel, P Beiersdorfer, G V Brown, J Clementson, M F Gu, L Schweikhard</i>	
Studies of X-ray Production Following Charge Exchange Recombination Between Highly Charged Ions and Neutral Atoms and Molecules	234
<i>G V Brown, P Beiersdorfer, H Chen, J Clementson, M Frankel, M F Gu, R Kelley, C A Kilbourne, F S Porter, D Thorn, B J Wargelin</i>	
Vacuum Ultraviolet Spectra in Charge Transfer Collisions of Multiply Charged Sn Ions	238
<i>S Suda, H Ohashi, H Tanuma, S Fujioka, H Nishimura, K Nishihara</i>	
Dissociative and Non-dissociative Charge-changing Processes in 1.0-2.0 MeV/u $O^{5+} + O_2$ Collisions	242
<i>D P Cassidy, E Y Kamber, A Kayani, J A Tanis</i>	
Charge Transfer Processes in Collisions of Slow Highly Charged Ions with Polar Molecules CO and C_3H_8	246
<i>M V Khoma, M Imai, O M Karbovanets, Y Kikuchi, M Saito, Y Haruyama, M I Karbovanets, I Yu Kretinin, A Itoh, R J Buenker</i>	
Cross Sections for Single Electron Capture in Collisions of N^{2+} with He at Low Energies	250
<i>K Soejima, S Tanaka, A Danjo</i>	
Gross and Partial Ionization Cross Sections in 6-MeV/amu Bare-ion Collisions with Methane	254
<i>Y Ohno, T Matsuo, T Kohno, T Nakazato, S Watanabe, T Murakami</i>	
High Resolution Low-energy Dielectronic Recombination Rate Coefficients of Beryllium-like Germanium: QED Test Bench for Two-valence-electron Systems	258
<i>D A Orlov, C Krantz, D Bernhardt, C Brandau, J Hoffmann, A Müller, T Ricsóka, S Schippers, A Shornikov, A Wolf</i>	
Low-lying Dielectronic Resonances of Fe XXII for Accurate Energy Determination of Autoionising Rydberg Levels on Boronlike Cores	262
<i>C Krantz, D A Orlov, D Bernhardt, C Brandau, J Hoffmann, A Müller, T Ricsóka, S Ricz, S Schippers, A Wolf</i>	
Effective Collision Strengths for Transitions of Ni XVII	266
<i>C E Hudson, P H Norrington, C A Ramsbottom</i>	
Dielectronic Recombination Into Mg-like Ions	270
<i>I Murakami, U I Safronova, T Kato</i>	
High-precision Measurement of the Spectral Width of the Nickel-like Molybdenum X-ray Laser	274
<i>N Hasegawa, T Kawachi, A Sasaki, H Yamatani, M Kishimoto, Y Ochi, M Tanaka, M Nishikino, Y Kunieda, K Nagashima, H Yoneda</i>	
Isomer Effect on Ionization Processes in Collisions of 6-MeV/amu Bare Ions with C_3H_6 Molecules	278
<i>T Nakazato, T Matsuo, T Kohno, Y Ohno, S Watanabe, T Murakami</i>	
Differential Experimental Investigation of Electron Capture for He^{2+} on Helium at Low Energy	282
<i>X L Zhu, X Ma, B Li, S F Zhang, W T Feng, H P Liu, L Chen, S P Cao, D B Qian, D C Zhang</i>	
Energy Gain Measurements of Xe^{9+} Ions in Collisions with He and Ar	286
<i>K Ishii, K Yoshimura, Y Inoue, H Ogawa</i>	
Differential Cross Sections for Single-electron Capture by Low-energy O_2^{2+} Ions from Ne and O_2	290
<i>E Y Kamber</i>	
Non-perturbative Investigation of the Interference Effects in the Ionization of the H_2 by Charged Particle Impact	294
<i>S Borbély, K Póra, L Nagy</i>	
A Four-body Fully Distorted Wave - Eikonal Initial State Model for Ionization of He Targets by Ion Impact	298
<i>J M Monti, O A Fojón, J Hanssen, R D Rivarola</i>	
New Classical CTMC Approaches to $A^{q+} + He$ Processes	302
<i>F Guzmán, L F Errea, L Méndez, B Pons, A Riera</i>	
A New MOTRIMS Apparatus for High Resolution Measurements in Ion-atom Collisions and Trapped Atoms Studies	306
<i>J Blieck, X Fléchar, A Cassimi, H Gilles, S Girard, D Hennecart</i>	
Complementary Spectroscopy of Tin Ions Using Ion and Electron Beams	310
<i>H Ohashi, S Suda, H Tanuma, S Fujioka, H Nishimura, K Nishihara, T Kai, A Sasaki, H A Sakaue, N Nakamura, S Ohtani</i>	

Polarization Studies of Radiative Electron Capture Into Highly-charged Uranium Ions	314
<i>S Hess, H Bräuning, U Spillmann, C Brandau, S Geyer, S Hagmann, M Hegewald, C Kozhuharov, T Krings, A Kumar, R Martin, D Protic, B O'Rourke, R Reuschl, M Trassinelli, S Trotsenko, G Weber, D F A Winters, Th Stöhlker</i>	
Multiple Electron Scattering Sequences in C^{q+} + Ar Collisions at Energies and Charge States Relevant for Carbon Ion Therapy	318
<i>K Tökési, B Sulik</i>	
Young Type Interference in Electron Emission from H₂ and Forward-backward Asymmetry: A New Approach	322
<i>S Chatterjee, D Misra, A H Kelkar, P D Fainstein, L C Tribedi</i>	
Loss Mechanisms and Lifetimes of Heavy Ion Beams in HIRFL-CSRe	327
<i>Y L Xue, X Cai, D Yu, J Shao, F F Ruan, D Qi, M W Zhang, W Wang</i>	
Electron-impact Excitation of 2p⁵3l → 2p⁵3l' Line Emission of Fe XVII	331
<i>D Kato, H A Sakaue, I Murakami, T Kato, N Nakamura, S Ohtani, N Yamamoto, T Watanabe</i>	

INTERACTIONS WITH CLUSTERS, SURFACES AND SOLIDS

Fragmentation of Meso-tetraphenyl Iron(III) Porphyrin Chloride (FeTPPCL) in Collisions with Kr⁸⁺ Ions	335
<i>B Li, G Gutierrez, L Chen, R Brédy, J Bernard, G Montagne, X Ma, V Bernigaud, B Manil, L Maunoury, B Huber, S Martin</i>	
Irradiation of Water Ices by 2 keV Carbon Ions	340
<i>C A Hunniford, A Dawes, D Fulvio, B Sivaraman, T L Merrigan, R W McCullough, N J Mason, M E Palumbo</i>	
Optical Emission Spectroscopy of Excited Atoms Sputtered on a Ti Surface Under Irradiation with Multicharged Ar Ions	344
<i>K Motohashi, Y Saitoh, S Kitazawa</i>	
Secondary-ion Emission from GaN(0001) and Dodecanethiol/Au(111) Surfaces Irradiated with Ar^{q+} (q = 4-8)	348
<i>K Motohashi, M Flores, Y Kanai</i>	
Energy Dependence of Ion Guiding Through Nanocapillaries	352
<i>K Schiessl, C Lemell, K Tökési, J Burgdörfer</i>	
Surface Nanostructure Formation by the Interaction of Slow Xenon Ions on HOPG Surfaces	356
<i>Y Y Wang, G Q Xiao, Y Zhao, D H Li, D Zhao, Z F Xu, F L Li</i>	
Absolute Sputtering Yields from Solid Ne by Low Energy He⁺ and Ar^{q+} (1 ≤ q ≤ 6) Impact	360
<i>Shinya Fujita, Takayuki Tachibana, Tetsuo Koizumi, Takato Hirayama</i>	
Secondary Ion Emission from a KCl(001) Surface by Grazing-angle Incidence of Swift Ions	364
<i>K Nakajima, M Suzuki, K Kimura</i>	
Density Matrix Description of Resonant Coherent Excitation of Swift Highly Charged Ions in Oriented Crystals	368
<i>V V Balashov, I V Bodrenko, V K Dolinov, A A Sokolik, A V Stysin</i>	
Kinetic Energy Release Distributions for C⁺₂ Emission from Multiply Charged C₆₀ and C₇₀ Fullerenes	372
<i>H Cedergren, N Haag, Z Berényi, P Reinhard, D Fischer, M Gudmundsson, H A B Johansson, H T Schmidt, H Zettergren</i>	
A Newly Built Setup for Small Bio-molecule Fragmentation Study in Lanzhou	376
<i>B Li, X Ma, L Chen, R Brédy, X L Zhu, H P Liu, S F Zhang, W T Feng, D B Qian, D C Zhang, S Martin</i>	
Guiding of Argon Ions Through PET Nano Capillary Foils	380
<i>M Kreller, G Zschornack, U Kentsch</i>	
Discharging Dynamics of Insulator Surfaces Irradiated by Highly Charged Ions	384
<i>N Bundaleski, H Khemliche, P Rousseau, A Cassimi, L Maunoury, P Roncin</i>	
Guiding of Slow Highly Charged Ions Through Insulating Nano-capillaries	388
<i>H Q Zhang, P Skog, R Schuch</i>	
Transmission of Low-energy Electrons Through SiO₂ Tube	392
<i>W Wang, D Qi, D Yu, M W Zhang, Fangfang Ruan, Jing Chen, X Cai</i>	
Resonant Coherent Excitation of Li-like Ar¹⁵⁺ Ions in a Thin Si Crystal	396
<i>Y Nakano, T Inoue, T Azuma, A Hatakeyama, Y Nakai, K Komaki, Y Yamazaki, E Takada, T Murakami</i>	

INTERACTIONS WITH PHOTONS, PLASMAS AND STRONG FIELD PROCESSES

Effect of Debye Plasmas on the Resonance States of Two-electron Highly Stripped Ions Using the Stabilization Method	400
<i>Y K Ho, Sabyasachi Kar</i>	

Two-photon Transitions in the He⁺ Ion Embedded in Strongly-coupled Plasmas	404
<i>H F Lai, Y C Lin, Y K Ho</i>	
Atomic Processes for the Damage on Bio-molecules Irradiated by XFEL	408
<i>K Moribayashi, T Kai</i>	
Progress of Opacity Experiment on the Shengguang II Laser Facility	412
<i>J Yang, Jiyan Zhang, Yan Xu, Jianmin Yuan, Jun Yan, Yaonan Ding, Y Zhao, Fengtao Jin, Zhimin Hu, Guohong Yang, Baohan Zhang</i>	
Production of Multiply Charged Ions from the 4d Photoionization of Cs⁺	416
<i>Tetsuo Koizumi, Takao M Kojima, Mutsumi Sano, Naoki Watanabe</i>	
X-ray Absorption by Highly Charged Ions in Plasmas: Toward Photo-pumping X-ray Laser	420
<i>T Kawachi, Y Kato</i>	
Behavior of Carbon Impurity Ions in Radiation Collapse in the Large Helical Device	424
<i>T Kato, H Funaba, K Sato, M Goto, B Peterson, I Murakami, D Kato, N Yamamoto</i>	

PRODUCTION, EXPERIMENTAL DEVELOPMENTS AND APPLICATIONS

A Tandem Linear Paul Trap As an Ion Source	428
<i>K Izawa, H Higaki, H Yamate, H Hitomi, K Ito, M Kuriki, H Okamoto</i>	
The SPARC EBIT at GSI; Commissioning and Future Plans at the HITRAP Beamline	432
<i>B O'Rourke, S Geyer, A Silze, A Solokov, G Vorobjev, D F A Winters, O Kester, Th Stöhlker</i>	
A Progress Report of 320 kV Multi-discipline Research Platform for Highly Charged Ions	436
<i>X Ma, H P Liu, L T Sun, M T Song, X L Zhu, S Sha, W T Feng, D C Zhang, S F Zhang, B Li, J Y Li, D B Qian, S Y Xu, D Q Gao, P Z Wang, L Z Ma, K D Man, G Q Xiao, H W Zhao, W L Zhan</i>	
Evolution of X-ray Calorimeter Spectrometers at the Lawrence Livermore Electron Beam Ion Trap	440
<i>F S Porter, P Beiersdorfer, G V Brown, M F Gu, R Kelley, S Kahn, C A Kilbourne, D Thorn</i>	
Enhancement of Soft X-ray Emission from Fs Laser Plasma by Using Mixture of Molecule and Atomic Gases As Cluster Jet Targets and Its Application for Nanostructure Imaging	444
<i>T A Pikuz, A Ya Faenov, I Yu Skobelev, S V Gasilov, A S Boldarev, V A Gasilov, Y Fukuda, M Kando, H Kotaki, I Daito, T Homma, K Kawase, T Kameshima, T Kawachi, P Bolton, H Daido, T Kimura, T Tajima, Y Kato, S V Bulanov</i>	
The Atomic Model of the Sn Plasmas for the EUV Source	448
<i>A Sasaki, Atsushi Sunahara, K Nishihara, Takeshi Nishikawa, Fumihiro Koike, H Tanuma</i>	
Creation of Highly-charged Calcium Ions for the G-factor Determination of the Bound Electron	452
<i>B Schabinger, S Sturm, K Blaum, W Quint, A Wagner, G Werth</i>	
Re-trapping and Cooling of Highly-charged Ions	456
<i>M Hobein, A Solders, M Suhonen, Y Liu, O Kamalou, R Schuch</i>	
Trapping of Highly Charged Ions with an Electrostatic Ion Trap	460
<i>A Gumberidze, D Attia, C I Szabo, P Indelicato, A Vallette, S Carmo</i>	
X-ray Spectroscopy Characterization of Ar¹⁷⁺ Produced by an ECRIS in the Afterglow Mode	464
<i>C Prigent, E Lamour, J Mérot, B Pascal, J-P Rozet, M Trassinelli, D Vernhet, J-Y Pacquet, L Maunoury, F Noury, J-M Ramillon</i>	
Highly Charged Ion Injector in the Terminal of Tandem Accelerator	468
<i>M Matsuda, T Asozu, T Nakanoya, K Kutsukake, S Hanashima, S Takeuchi</i>	
The Commissioning Progress of the Cooler Storage Ring HIRFL-CSR in Lanzhou	472
<i>X Cai, Jiawen Xia, W L Zhan, H Xu</i>	
Absolute Detection Efficiencies of an Ion-counting System with a Channel-electron Multiplier	476
<i>Tetsuo Koizumi, Yuta Chihara</i>	
Development and Applications of Electron Beam Ion Source for Nanoprocesses	480
<i>M Sakurai, M Tona, H Watanabe, N Nakamura, S Ohtani, T Terui, S Mashiko, H A Sakaue</i>	
Investigation of Ions Emitted from a Tin Fuelled Laser Produced Plasma Source	484
<i>A O'Connor, P Dunne, O Morris, F O'Reilly, G O'Sullivan, E Sokell</i>	
Author Index	