Contribution ID: 21

Type: Poster

Dielectronic-recombination processes in highly-charged heavy ions

Monday, 24 April 2017 19:10 (2 hours)

Dielectronic-recombination (DR) spectra of highly-charged W⁺ and Ir⁺ ions have been measured by employing the Electron-Beam Ion Trap (EBIT) at National Institute of standards and Technology [1] and the Main Magnetic Focus Ion Trap (MaMFIT) [2] at Justus-Liebig Universität Gießen, respectively, over wide ranges of electron-beam energies. A series of DR resonances involving transitions between $2\boxtimes \rightarrow 3\boxtimes'$ and $2\boxtimes \rightarrow 4\boxtimes'$ subshells in Na-like through Ar-like tungsten have been revealed in the NIST EBIT spectra, while in the MaMFIT, DR resonances involving transitions between $2\boxtimes \rightarrow 3\boxtimes'$ subshells in K-like through Ni-like iridium were seen. Detailed modeling of the observed spectra has been performed.

Primary author: Dr BOROVIK, Alexander (Justus-Liebig Universität Gießen)

Co-authors: Prof. MÜLLER, Alfred (JLU Giessen); Dr DIPTI, Dipti (Quantum Measurement Division, National Institute of Standards and Technology, Gaithersburg MD, USA); Prof. TAKÁCS, Endre (Department of Physics and Astronomy, Clemson University, Clemson SC, USA); Dr DREILING, Joan (Quantum Measurement Division, National Institute of Standards and Technology, Gaithersburg MD, USA); Dr GILLASPY, John (Division of Physics, National Science Foundation, Arlington VA, USA); Dr HUBER, Kurt (Institut für Atom- und Molekülphysik, Justus-Liebig- Universität Gießen); Prof. LOMSADZE, Ramaz (Department of Physics, Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia); Mrs SILWAL, Roshani (Quantum Measurement Division, National Institute of Standards and Technology, Gaithersburg MD, USA); Dr OVSYANNIKOV, VLDIMIR (Dresden MaMFIS Grup); Dr RALCHENKO, Yuri (Quantum Measurement Division, National Institute of Standards and Technology, Gaithersburg MD, USA)

Presenter: Dr BOROVIK, Alexander (Justus-Liebig Universität Gießen)

Session Classification: Posters

Track Classification: Atomic structure