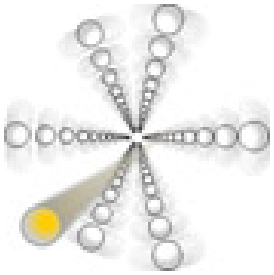

Contribution ID: **26** Type: **not specified**

Resonant Coherent Excitation of Relativistic Highly Charged Ions at Planar Channelling in Si-Crystal

Monday, 24 September 2012 18:40 (15 minutes)

In the present contribution we report on the first measurement of Resonant Coherent Excitation of Li-like uranium ions. A cooled, well collimated beam of U89+ at 192 MeV/u delivered by the Experimental Storage Ring (ESR) at GSI, Darmstadt (Germany), was sent through a 10 μm effective thickness Si-crystal mounted on a high precision, 5-axis goniometer under the (220) planar orientation. The resonant ion excitation was identified by measuring the yield of the x-rays emitted during the de-excitation process of the channelled ions as a function of the crystal orientation. Using the absolute beam velocity measured at the electron cooler in the ESR, the transition energy was determined from the resonance curve with a precision of 10-4.

Primary author: Ms ANANYEVA, Alena (Goethe-Universität, 60325 Frankfurt am Main, Germany)

Co-authors: Dr BRAEUNING-DEMIAN, Angela (b GSI Helmholtzzentrum, 64291 Darmstadt, Germany); Dr DAUVERGNE, Denis (IPNL - Institut de Physique Nucléaire de Lyon, 69100 Lyon, France); Dr BRÄUNING, Harald (GSI Helmholtzzentrum, 64291 Darmstadt, Germany); Mr SUDA, Shintaro (Tokyo Metropolitan University, Hachioji, 192-0397 Tokyo, Japan); Mr SHINDO, Taiki (Tokyo Metropolitan University, Hachioji, 192-0397 Tokyo, Japan); Prof. AZUMA, Toshiyuki (Tokyo Metropolitan University, Hachioji, 192-0397 Tokyo, Japan); Prof. YAMAZAKI, Yasunori (RIKEN Advanced Science Institute, Wako, 351-0198 Saitama, Japan); Dr KANAI, Yasuyuki (RIKEN Advanced Science Institute, Wako, 351-0198 Saitama, Japan); Dr NAKANO, Yuji (Tokyo Metropolitan University, Hachioji, 192-0397 Tokyo, Japan); Prof. PIVOVAROV, Yuri (National Research Tomsk Polytechnic University, 634050 Tomsk, Russia)

Presenter: Ms ANANYEVA, Alena (Goethe-Universität, 60325 Frankfurt am Main, Germany)

Session Classification: S2.2 Channeling Radiation & Related Phenomena

Track Classification: Channeling Radiation & Related Phenomena