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## A low energy ion beam line for highly charged ions

Günter Zschornack<sup>a,\*</sup>, Steffen Landgraf<sup>a</sup>, Frank Grossmann<sup>b</sup>, Ulrich Kentsch<sup>b</sup>,  
Vladimir P. Ovsyannikov<sup>b</sup>, Mike Schmidt<sup>b</sup>, Falk Ullmann<sup>b</sup>

<sup>a</sup>*Institut für Angewandte Physik, Technische Universität Dresden, Mommsenstr. 13, D-01062 Dresden, Germany*

<sup>b</sup>*LEYBOLD Vakuum Dresden GmbH, Zur Wetterwarte 50, D-01109 Dresden, Germany*

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### Abstract

An ion beam line is presented, which is designed to study the interaction of highly charged ions with matter, especially solid surfaces. The highly charged ions are produced in a room temperature electron beam ion trap, the Dresden EBIT [1,2]. This device delivers bare nuclei up to elements with an atomic number of about 28, and neon-like ions up to about  $Z = 80$ . After leaving the trap the ion beam containing several neighbouring ion charge states passes through standard ion optics elements before entering an analysing magnet for separating a certain ion charge state. In a following deceleration unit, which will be integrated soon, the ions can be slowed down to a definite kinetic energy of a few eV. The characteristic of the HCI beam is presented, combined with ion extraction spectra of selected elements detected by a Faraday cup after passing through an analysing magnet.

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