

# ACCELERATOR SEMINAR

**Markus Basten**

IAP, Goethe-Universität Frankfurt am Main

**Thursday, 19<sup>th</sup> April at 4 p.m.**

**KBW lecture hall**

Planckstraße 1, 64291 Darmstadt

## **"Cavity development and measurements on the cw heavy Ion LINAC@GSI"**

In the future the existing GSI-UNILAC (Universal Linear Accelerator) will primarily be used to provide high power heavy ion beams at a low repetition rate for the FAIR project (Facility for Antiproton and Ion Research). To keep the ambitious Super Heavy Element (SHE) physics program at GSI competitive a superconducting (sc) continuous wave (cw) high intensity heavy ion LINAC is highly desirable to provide ion beams at or above the coulomb barrier. The fundamental linac design composes a high performance ion source, a new low energy beam transport line, the High Charge State Injector (HLI) upgraded for cw, and a matching line (1.4 MeV/u) followed by the new sc-DTL LINAC for acceleration up to 7.3 MeV/u. The construction of the first demonstrator section has been finished in the 3rd quarter of 2016. It comprises the first crossbar-H-mode (CH) cavity with two sc 9.3 T solenoids and has been successfully tested in the end of 2016. Currently the next two sc 8 gap CH-cavities are under construction at Research Instruments (RI). First intermediate measurements during the fabrication process as well as the latest status of the construction phase will be presented



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