



Science Week

April 24-27, 2018 at GSI, Darmstadt

Contribution ID: 4

Type: Oral

1-10 MeV/u cw-heavy ion beams at GSI

Wednesday, 25 April 2018 18:05 (20 minutes)

In 2017 a newly developed superconducting 15-gap RF-accelerator cavity has been successfully tested at GSI. After a short commissioning and ramp up time of some days, a Crossbar H-cavity accelerated first time heavy ion beams with full transmission up to the design beam energy of 1.85 MeV/u. The design acceleration gain of 3.5 MV inside a length of less than 70 cm has been verified with heavy ion beam of up to 1.5 particle μeA . The measured beam parameters showed excellent beam quality, while a dedicated beam dynamics layout provides beam energy variation between 1.2 and 2.2 MeV/u. As a next step towards an entire superconducting heavy ion cw-Linac with variable beam energy (3.5 - 7.3 MeV/u at $A/q = 6$) the first fully equipped cryo module CM1, will be set up and tested. Results of the recent beam test campaign as well as a scenario for user operation using cw-heavy ion beams from CM1 and entire cw-linac will be presented

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Session Classification: Mat Science Week

Track Classification: MAT User Collaboration Meeting and Material Science at the Future FAIR Facility