

Transverse Beam dynamics simulations benchmarked with ESS Bilbao injector measurements for ISOLDE ISRS project

Monday 26 August 2024 16:00 (2 hours)

A multi-harmonic buncher cavity, MHB, is being designed by ESS Bilbao for HIE-ISOLDE ISRS project at CERN, to bunch beam pulses with 5 keV/u input energy. The MHB will be tested with ESS Bilbao light-ion injector. Transverse beam dynamics simulations were carried out to analyse preliminary measurements from hydrogen beams produced at 5 and 10 kV. Results have demonstrated that ESS Bilbao injector can produce H⁺ and H₂⁺ beams with 5 keV/u, for an optimum characterization of MHB cavity.

Footnotes

Funding Agency

Project funded by Spain Government under grant agreement Experiment ISRS-ISOLDE (BOE-A-2023-16885), the Recovery, Transformation, and Resilience Plan, and the European Union program NextGenerationEU

Primary author: FERNANDEZ-CAÑOTO, David (ESS Bilbao Consortium)

Co-authors: BUSTINDUY, Ibon (ESS Bilbao Consortium); MUNOZ, Juan (ESS Bilbao Consortium); ALTENMÜLLER, Konrad (ESS Bilbao Consortium); MIRACOLI, Rosalba (ESS Bilbao Consortium); VARNASSERI, Seadat (ESS Bilbao Consortium); MASA, Sergio (ESS Bilbao Consortium)

Presenter: FERNANDEZ-CAÑOTO, David (ESS Bilbao Consortium)

Session Classification: Monday Poster Session

Track Classification: MC1: Beam Dynamics, Extreme Beams, Sources and Beam-Related Technologies; MC1.1 Beam Dynamics, beam simulations, beam transport