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The New Intense Heavy Ion Alvarez 2.0 DTL at GSI

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The existing post-stripper Drift Tube LINAC (DTL) of the GSI UNILAC will be replaced with the new Alvarez 2.0 DTL to serve within the injector chain for the Facility for Antiproton and Ion Research (FAIR). The 108.4 MHz Alvarez 2.0 DTL accelerates intense ion beams along five individual cavities with a total length of 55 meters from 1.36 MeV/u to 11.32 MeV/u. The design of the Alvarez 2.0 DTL has been completed and a 1.9 meter First-of-Series cavity section has been successfully RF-conditioned at nominal uranium operation including power margin. The prototype of the shortest drift tube (DT) with an internal pulsed quadrupole magnet operated successfully and a study of the longest DT is in fabrication. The Alvarez 2.0 cavity will be delivered in spring 2023 and the DTs of the first cavity AI have been ordered. Additionally, all add-on parts like the adjustment frame of the drift tubes or the plungers are partially in tender, production, or have been already delivered. The copper-plating of all cavities will be done on-site, while all add-on parts will be copper-plated externally. The current status of the Alvarez 2.0 DTL project will be presented in this contribution.

Funding Agency

Footnotes

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Yes

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