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Hadron Sources and Linacs activities in the Accelerator Beam Physics Group at CERN.

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This paper reviews various activities regarding primary particle production for the entire CERN accelerator complex,the Linac3 lead ion and Linac4 H- operation and studies possible future upgrades and consolidation of the injectors. Besides lead ions, Linac3 provides a variety of different ions for the LHC and fixed target experiments. The Linac4 H- source was recently improved with a new extraction system that allowed reliable routine operation with unprecedented beam current and quality. A spare RFQ will be commissioned in 2025 at a dedicated test stand where the critical low-energy beam dynamics will be studied with a dedicated diagnostics line. The expertise and competences gained over the past decades with the renovation of the CERN injectors have been applied to sources and linacs for societal and medical applications: a series of compact MeV range accelerators based on the frequency of 750MHz have been built at CERN and in industry. They are used both at CERN and elsewhere for ion beam analysis and as a pre-injector for a linac- based hadron-therapy facility for protons or carbon ions.

Footnotes

Funding Agency

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Yes

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