

8th High Power Targetry Workshop (HPTW2023)



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LINAC3 SLITS CONSOLIDATION

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The CERN's Linac3 is a linear accelerator responsible for providing ion beams to the CERN accelerator complex. The Linac3 slits serve various functions, including charge state separation, diagnostics, and emittance measurement. However, the currently installed five slits exhibit differing specifications, functions, and positions along the beam line, making maintenance and management of spare parts complex.

The installed slits date back to around 1970 and were originally designed for CERN's Linac1. Unfortunately, there is a lack of comprehensive documentation and spare parts for their maintenance. Moreover, only one slit is equipped with a survey reference, and the beam parameters have undergone changes over the years.

This contribution will provide a detailed account of the Linac3 slits consolidation program's progress, which started one year ago. The aim is to identify and design new sub-components using commercially available parts while concurrently updating the documentation and increase machine reliability. A thorough study has been conducted on heat dissipation and mechanical characteristics, including practical thermal contact conductance and conductivity characterization. The poster will also present an initial conceptual design of the new system.

Themes for the contribution

4 Target design, analysis, and validation of concepts:

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