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Development of a spill-structure manipulation cavity and first experiment with beam in SIS18

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For several years, significant effort has been spent at GSI to improve the time structure of the spill during slow extraction in SIS18. This led to the requirement to extend the possibilities to experimentally improve the micro-spill structure by partially or fully capturing the beam with an RF of more than 40 MHz. Therefore, a so-called spill-structure manipulation cavity was designed, realized and optimized which allows the mentioned experiments. In this contribution, the design of the cavity and the challenges of its realization are described, and measurement results concerning the first experimental operation in the SIS18 synchrotron are presented.

Footnotes

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