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5 MeV Beam Transport System for MESA

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An important part of the new accelerator MESA (Mainz Energy-recovering Superconducting Accelerator) is the beamline connecting the pre-accelerator with the main accelerator. The setup includes a vertical parallel beam offset realized with two dipoles. These are designed in a way, that they can serve as steerer for the main accelerator and will be discussed in this contribution. Furthermore, the beamline contains a horizontal 180°-beam deflection realized with four dipoles. It is also possible to extract the beam to a Mott-polarimeter* and to a separate diagnostic beamline. The layout and the lattice- and particle simulations leading to this will be discussed concerning beam dynamics especially with regard to the high beam currents of 1 mA in cw-mode.

Funding Agency

Footnotes

*See contribution of Rakshya Thapa.

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Yes

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