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## Status of the prototype electron lens for space charge compensation at GSI

*Tuesday 3 June 2025 16:00 (2 hours)*

At GSI the design of a prototype electron lens to demonstrate the space charge compensation scheme is being continued. The ultimate goal is to increase the beam intensity for FAIR by compensating for the space charge forces in the synchrotrons operating with high intensity beams by overlapping with an inversely charged electron beam in the electron lens.

The main components of the lens, such as the RF-modulated electron gun and the collector, have been designed and are partly in production. The layout of a test bench for the commissioning of these components is under development. Furthermore, the influence of the electron lens on the beam dynamics of the ion beams at SIS18 as well as correction concepts are being studied.

In this contribution an overview of the ongoing activities regarding the design of the electron lens for space charge compensation will be presented.

### Footnotes

### Paper preparation format

LaTeX

### Region represented

Europe

### Funding Agency

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