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# Orbit error correction schemes for the Helium Light Ion Compact Synchrotron HeLICS

*Wednesday 4 June 2025 16:00 (2 hours)*

The Helium Light Ion Compact Synchrotron (HeLICS) is an innovative synchrotron design for cancer treatment currently under development in the context of the Next Ion Medical Machine Study (NIMMS) at CERN. As part of the lattice design, the beam size around the HeLICS circumference is evaluated and the optics functions optimized in order to meet the aperture requirements imposed by the magnet design. Furthermore, the impact of orbit errors arising from magnet misalignments is addressed, taking into account the required margins and tolerances. Correction strategies are proposed to compensate these alignment errors and provide sufficient orbit correction.

## Footnotes

## Paper preparation format

LaTeX

## Region represented

Europe

## Funding Agency

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