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Field Quality at injection for FCC-hh

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The Nb₃Sn dipole design for the hadron machine option of the Future Circular Colliders enters in an intense and long R&D phase. As a result, more realistic dipole field quality evaluations are available for beam dynamics studies. The impact of the dipole field quality on the optics design and on the beam lifetime at injection are presented and the non-linear correction schemes defined. The effects of the Landau Damping octupoles and the RF bucket size at injection are also discussed. Main highlights of this topic, inside the EuroCirCol study, and perspectives are summarized.

Primary author: DALENA, Barbara (Université Paris-Saclay (FR))

Co-authors: CHANCE, Antoine (CEA Irfu); BOUTIN, David (CEA); SCHULTE, Daniel (CERN)

Presenter: DALENA, Barbara (Université Paris-Saclay (FR))

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