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Magnetic design of non linear kicker for ESRF-EBS

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The ESRF-EBS injection is performed with a standard off-axis injection scheme consisting of two in-air septa S1/2, one in vacuum septum S3 and four kicker magnets K1 to K4 to generate the injection bump. We can achieve 80% efficiency with this scheme. Despite many modifications and adjustments which allow the reduction of the perturbation, some beamlines are still affected. The Non-Linear Kicker could be a solution to this problem because it acts only on the injected beam. This paper reports on the magnetic design of the Non-Linear Kicker, including the octupole like Magnetic field simulations, magnetic forces calculations and mechanical tolerance optimizations.

Footnotes

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Paper preparation format

Word

Region represented

Europe

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