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Beam based alignment by using double correctors

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Beam based alignment is a well-known technique for obtaining a small emittance beam which is critical in an injector of an accelerator or a matching section between two accelerators. The simplest beam based alignment can be performed with a corrector, a quadrupole, and a beam position monitor. This work presents a beam based alignment technique with double correctors located before the quadrupole magnet. The merit function was used to find the corrector settings of each beam based alignment. The measurement results showed that minimum corrector strengths could be achieved to have the ideal beam based alignment by using the fitting results of the merit function.

Footnotes

Funding Agency

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Yes

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