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# Beam Based Alignment Using a Neural Network

*Monday 8 May 2023 16:30 (2 hours)*

Due to various errors, the beam does not pass through the center of magnets in a storage ring. The beam orbit is affected by additional dipole fields since magnetic field feed-down. To obtain a reference orbit, on which the beam circulates along the quadrupole axes, the beam-based alignment (BBA) is performed in the ring. In this work, a novel method based on a neural network is proposed to find the golden orbit. This golden orbit can be directly used for operation, or can be adopted as the starting point for the conventional BBA. The development of this new method and corresponding experiments are reported in this paper.

## Funding Agency

## Footnotes

## I have read and accept the Privacy Policy Statement

Yes

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