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Orbital Stability Analysis of Three Beamlines in Beam Distribution System of SHINE Facility

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In Shanghai, a hard X-ray free electron laser facility named SHINE is under construction which is composed of three undulator lines. As part of the facility, it is preferable to incorporate a beam distribution system just before the undulators to provide suitably tailored beams for diverse experiments. In order to drive a FEL, a good overlap between the electron beam and the radiation is very essential. As a result, evaluating the beam position jitters at the entrance to the undulator is a must. In this paper, the total impact of all the jitter sources, as well as the individual contribution of each jitter source, was calculated. Data was compared and analyzed.

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Footnotes

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Yes

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