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Better a chicane today than an undulator tomorrow?

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Sometimes free-electron laser beamlines cannot be built under the "infinite money approximation". This also holds true for FLASH2020+. Here, owning to resource optimization, the amount of APPLE-III type radiators to be installed in the current 2024/25 shutdown has been reduced from 11 to 6+3 re-used planar undulators from the sFLASH/Xseed experiments. While adding undulators is possible in future upgrades a key question is which strategy proves best.

In the contribution we consider a cascaded scheme that takes advantage of the lattice, by filling some of the empty spaces with chicanes instead of undulators. We show that this approach is beneficial both in terms of flexibility and performance for the Users.

Footnotes

Funding Agency

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