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Lattice considerations for synchrotron of XiPAF-upgrading project

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The synchrotron of XiPAF (Xi'an 200MeV proton application Facility) is a compact proton synchrotron, which can accumulate and accelerate $1e11$ particles for 3-order resonance slow extraction, with H^- -stripping injection and phase space painting scheme. Now XiPAF is under the challenge of more particle species for single event effect study, like He^+ , C^{4+} and so on. This paper report the lattice considerations and beam dynamic study for XiPAF-Upgrading Project, shows that XiPAF synchrotron upgrade is feasible by using original dipole, quadrupole and sextupole magnets.

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Footnotes

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