

The potential accelerator neutrino flux with HIAF facility

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HIAF (High Intensity heavy ion Accelerator Facility) is a new facility currently being constructed in Huizhou, China. The facility will be ready at the end of 2025, with a maximum magnetic rigidity of 34 Tm, providing the proton beam with a maximum energy of 9.3 GeV and a maximum flux intensity of 10^{14} proton/s. Although HIAF is designed for heavy-ion-related research, its high-intensity and high-energy proton flux also provide the chance to generate a GeV-level neutrino flux, which can serve as an ideal neutrino source for neutrino physics studies including CP violation and mass ordering problems.

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