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Seaching for heavy sterile neutrinos in kaon decay

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The discovery of neutrino oscillations calls for an extension of the Standard Model that would generate neutrino masses and mixing. One of the simplest possibilities is the addition of fermionic gauge singlets or sterile neutrinos. Many experimental strategies have been proposed to search for heavy sterile neutrinos, depending on their mass. If their mass fall within the MeV-GeV range, they can be produced on-shell in kaon decays. There is an intense ongoing and planned experimental program dedicated to the study of these decays at CERN (NA62, NA64) or J-PARC (KOTO) for example. We will present new results on the impact of heavy neutrinos on kaon decays, highlighting the most promising observables.

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