

The possibility of sterile neutrino search with $^{144}\text{Ce} - ^{144}\text{Pr}$ source and liquid scintillation detectors

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Expected energy spectra calculations for large volume liquid scintillation detectors to inverse β -decay for anti-neutrinos produced by $^{144}\text{Ce} - ^{144}\text{Pr}$ artificial source have been performed. The calculations were carried out through Monte-Carlo method within GEANT4.10 framework and were purposed to search for neutrino oscillation to sterile eigenstate. The analysis of relative sensitivity to oscillation parameters for different detector shapes has been performed.

Primary author(s) : Prof. DERBIN, Alexander; Mr. DRACHNEV, Iliia; LOMSKAIA, Irina (PNPI NRC KI); Mrs. MURATOVA, Valentina; Mrs. PILIPENKO, Nelly (PNPI NRC KI); Mr. SEMENOV, Dmitriy; Mr. UNZHAKOV, Evgeniy

Presenter(s) : LOMSKAIA, Irina (PNPI NRC KI)

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