

Future prospects of experiment Neutrino-4.

In Neutrino-4 experiment on SM-3 research reactor we are looking for confirmation of a hypothesis about oscillation into sterile neutrino state.

To attain needed accuracy project of new neutrino laboratory with two detectors at SM-3 reactor was developed.

This poster present scheme of new laboratory, new detector design and implementation phases of equipment for him. Also results of Monte-Carlo simulation of antineutrino detection process in new detector and results of investigation with single section prototype are given.

Future detector is created in cooperation with DANSS and NEOS collaborations. Use of Gd loaded liquid scintillator, which is made by NEOS collaboration, and new design of the detector allow us to suppress both accidental coincidence background and correlated one. Thus after a 1 year of measurements with 2 detectors at 6 points in distance range 6 –14 m statistical accuracy will be ~3% for each point.

Session and Location

Monday Session, Poster Wall #168 (Ballroom)

Poster included in proceedings:

yes

Primary author: Prof. SEREBROV, Anatolii (PNPI NRC KI)

Co-authors: Dr FOMIN, Alexey (PNPI NRC KI); Mr SAMOILOV, Rudolf (PNPI NRC KI)

Presenter: Prof. SEREBROV, Anatolii (PNPI NRC KI)

Track Classification: Poster (participating in poster prize competition)