

Development of the experiment on first observation of elastic coherent neutrino-nucleus scattering with liquid argon.

Monday, 10 October 2016 16:26 (13)

The experimental observation of coherent elastic neutrino-nucleus scattering is one of the most important physical tasks nowadays. The RED collaboration has built a LXe detector “RED-100” for this purpose. An LAr-detector “CENNS-10” is now under construction by COHERENT collaboration. The “RED-100” can be used with LAr filling after several modifications. The use of different working media allows one to determine parameters of the scattering process more precisely since this effect depends on number of nucleons in nuclei. These both detectors use PMTs as photodetectors. To collect the argon VUV light (128nm) with PMTs wavelength shifters (WLS) must be used. The R&D with different types of WLS (including new type of WLS, called NOL – nanostructured organic luminofores) is in progress using ITEP test chamber and Monochromator McPherson 234 in Indiana University.

Primary author(s) : Dr. AKIMOV, Dmitry (ITEP and MEPhI); Mr. RUDIK, Dmitry (ITEP and MEPhI)

Presenter(s) : Mr. RUDIK, Dmitry (ITEP and MEPhI)

Session Classification : Methods of experimental physics - parallel I

Track Classification : Methods of experimental physics