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The measurement of the geo-neutrino fluxes: status and near future

Abstract

Recently KamLAND collaboration presented preliminary analysis of the data taken after the shutdown of nuclear power plants. In the absence of the background from nuclear reactors the geoneutrino signal dominates in the observed spectrum, precision of geoneutrino signal measurement approaches 15%. Together with Borexino measurements the new KamLAND data offers an opportunity for the discrimination of the geophysical models of the Earth. The separation of the geoneutrino signal from mantle is of special interest for geophysicists. The current results of the Borexino and KamLAND will be discussed. The perspectives for measurement of geoneutrino fluxes both on existing and planned detectors (SNO+, JUNO) will be discussed.

November 28, 2016 - 2:30 pm
LNGS - "B. Pontecorvo" room