

EXO-200 results and cosmogenic backgrounds

Wednesday, 12 October 2016 17:15 (15)

Setup description and the latest results for EXO-200 experiment are presented. Detector is liquid xenon TPC dedicated to study of ^{136}Xe double beta decay. It contains 175 kg of xenon and is located in underground low-background laboratory. Careful material selection and cleaning procedures along with complicated analysis resulted in one of the the lowest Background Index among comparable detectors. Experiment discovered $2\beta 2\nu$ decay and made the most precise measurement of half-life of it. Special attention is this talk is given to a dedicated study of activation of detector materials by cosmic ray muons and resulting backgrounds in the detector. This is very important for such a sensitive experiment since it produces unavoidable background.

Primary author(s) : Mr. BELOV, Vladimir (Institute for Theoretical and Experimental Physics)

Presenter(s) : Mr. BELOV, Vladimir (Institute for Theoretical and Experimental Physics)

Session Classification : Nuclear physics and particle physics - parallel IV

Track Classification : Nuclear physics and particle physics