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Fast neutron background in the Daya Bay experiment

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The precise measurements of neutrino mixing angle θ_{13} and square of mass splitting are the main goals of the Daya Bay experiment. There are several types of systematic uncertainties in that measurement. The backgrounds induced by cosmic muons (fast neutrons, unstable isotopes of Li and He) are important sources of systematic errors because signature of its' interaction in detector is indistinguishable from antineutrino interactions.

The fast neutron background is produced by energetic neutrons created in interaction of cosmic muons with the material of the detector. We present study of the selection procedure for such events and preliminary results for its' rates and spectra based on data set from 2012 to 2015.

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