

Potential of geo-neutrino measurements at JUNO and the Local 3D model

Authorship annotation

Session and Location

Monday Session, Poster Wall #204 (Ballroom)

Abstract content

Geoneutrinos are unique probes that bring direct information about the amount and distribution of heat producing elements in the crust and mantle. Due to low counting statistics results from geoneutrino measurements at Kamland and BOREXINO are inadequate to resolve which of the three models best describes the BSE composition. The 20 kton JUNO detector will provide sufficient data to address several questions of geological importance. This poster presents a 3D crust model for the area around JUNO based on its geological, geophysical and geochemistry properties; The 3D model provides a distinction of the volumes of the different geological layers together with the corresponding Th and U abundances. We present our predicted local contribution to the total geoneutrino flux and the corresponding backgrounds at JUNO. In addition, we discuss the details of determining the Th/U ratio and mantle contribution to the total geoneutrino flux.

Poster included in proceedings:

yes

Primary author(s) : Dr. HAN, Ran (BISEE)

Presenter(s) : Dr. HAN, Ran (BISEE)

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