

JUNO's Perspective for Geoneutrinos

jeudi 6 juillet 2023 11:20 (25 minutes)

Jiangmen Underground Neutrino Observatory (JUNO) is a neutrino experiment being built in Southern China to measure neutrinos produced in nuclear power plants at a distance of 52.5 km. Having the main goal to improve the knowledge about neutrino oscillations, fundamental properties of these particles, JUNO will also be able to observe neutrinos of natural origin such as from the Sun, supernovae, the Earth atmosphere and its interior. The latter are called geoneutrinos and can serve as a proxy for investigation of the Earth's radiogenic heat. Using inverse beta-decay as the detection channel, JUNO is sensitive to geoneutrinos produced in beta-decays of U-238 and Th-232 radioactive isotopes. JUNO will collect in one year about 400 geoneutrinos, what is more than the present-day statistics measured by Borexino and KamLAND together. This talk will report the JUNO expected sensitivity to geoneutrino measurement including some preliminary results of an updated analysis.

Auteur principal: Dr MALYSHKIN, Yury (GSI / Forschungszentrum Jülich)

Orateur: Dr MALYSHKIN, Yury (GSI / Forschungszentrum Jülich)

Classification de Session: Mantle-crust connection, geoneutrinos and Earth's heat budget