



Contribution ID: 28

Type: **not specified**

Geoneutrino measurement with KamLAND

Monday, 21 October 2019 10:00 (30 minutes)

KamLAND, Kamioka Liquid-scintillator Anti-neutrino Detector (Japan), utilizes 1 kton liquid scintillator and reported the first experimental study of geo-neutrino in 2005. In 2011, KamLAND geo-neutrino measurement results were used to estimate the Earth's radiogenic heat production and constrain composition models of the bulk silicate Earth (BSE). Following the Fukushima reactor accident in March 2011, the entire Japanese nuclear reactor industry, which generates the most serious background for geo-neutrino measurement, has been subjected to a protected shutdown. This unexpected situation allows us to improve the sensitivity for geo-neutrinos. KamLAND geoneutrino results will be presented including new data set.

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