Search for physics beyond the Standard Model at KamLAND

Wednesday, 4 October 2017 16:00 (15)

The talk covers two topics: neutrinoless double-beta decay search using 136 Xe at KamLAND-Zen, and direct Dark Matter search using ultra-radio-pure NaI(Tl) detectors at KamLAND underground facilities. The KamLAND-Zen is currently the largest neutrinoless double beta decay experiment which holds world's best limit on $T_{1/2}^{0\nu} > 1.07 \times 10^{26}$ yr at 90% C.L.. This limit corresponds to the effective neutrino mass range of 61-165meV depending on choice of nuclear matrix elements. Overview, current status and future prospects for both experiments will be discussed in details.

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