KamLAND-PICO Dark Matter Search Project

Thursday, 12 September 2013 16:40 (20 minutes)

The high sensitivity KamLAND-PICO project to search for WIMPS dark matter is proposed. A highly radiopure NaI(Tl) scintillator has been developed for the WIMPs search. The aim of this project is to prove/disprove the annual modulation reported by DAMA and to investigate further the WIMPs in the much lower cross section region.

KamLAND acts as a high veto detector for PICO-LON NaI(Tl) detector. Finally 1 ton of NaI(Tl) will be installed into KamLAND to study the annual modulation with the sensitivity of 10–8 pb.for spin-independent WIMPs.

In the present workshop, the recent progress of the NaI(Tl) scintillator development and the expected sensitivity will be discussed.

Primary author: Prof. FUSHIMI, Ken-Ichi (The Univ. of Tokushima)

Co-authors: KOZLOV, Alexandre (IPMU Tokyo Univ.); Prof. IKEDA, Haruo (RCNS Tohoku Univ.); Prof. EJIRI, Hiroyasu (RCNP Osaka Univ.); Mr YASUDA, Kensuke (I.S.C. Lab.); Prof. INOUE, Kunio (RCNS Tohoku Univ.); Dr IMAGAWA, Kyoshiro (I.S.C. Lab.); Prof. ORITO, Reiko (Univ. of Tokushima); Prof. HAZAMA, Ryuta (Osaka Sangyo Univ.); Prof. NAKAYAMA, Shintaro (Univ. of Tokushima); Prof. SHIMA, Tatsushi (RCNP Osaka Univ.)

Presenter: Prof. FUSHIMI, Ken-Ichi (The Univ. of Tokushima)

Session Classification: Dark Matter VIII

Track Classification: Dark Matter