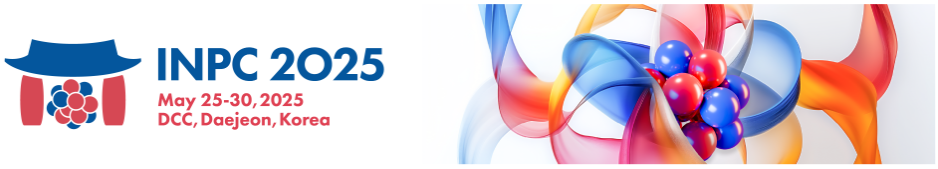

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A search for ^{7}Li solar axion with Li_2MoO_4 detectors in the AMoRE experiment

A search for resonance excitation of ^{7}Li by the solar axions has been realized with the Li_2MoO_4 scintillation bolometers, used to search for the neutrinoless double beta decay of ^{100}Mo in the AMoRE project at the phase-1 experiment. The detection of 478 keV de-excitation gamma of $^{7}Li^{*}$ would indicate the existence of solar axion. The five Li_2MoO_4 crystals, used as a target and detector for the AMoRE experiment, give this mechanism 14.2% detection efficiency. The data from 1.6 kg Li_2MoO_4 (118.5 g of 7Li contained) crystals were accumulated using phonon sensors at 10-20 mK for 11 months at the Yangyang underground laboratory in Korea. The detailed analysis procedure and the preliminary results are presented. Preliminary, a new upper limit on axion mass is set as ma < 5.6 keV. The sensitivity is expected to be improved to the level of ~2 keV by the AMoRE phase II experiment in preparation now.

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