

LNGS SEMINAR SERIES

A Search for Solar Axion Using the ^{169}Tm -containing Bolometers

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A search for resonant absorption of solar axions by ^{169}Tm nuclei will be performed using the Tm-containing bolometers installed inside a low-background setup at the LNGS.

Thulium crystals - $\text{NaTm}(\text{WO}_4)_2$ and $\text{NaTm}(\text{MoO}_4)_2$ have been grown and tested for the first time as bolometric detectors. The expected sensitivity of 1 kg Tm-bolometer to axion-photon ($g_{A\gamma}$) and axion-electron (g_{Ae}) coupling constants for axions with mass in the range 10 eV to 8 keV is stronger than the present astrophysical limits.

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