Contribution ID : **413** Type : **Poster supernova**

Supernova neutrino sensitivity and physics reach of the PICO 500 experiment

Authorship annotation

for the PICO collaboration

Session and Location

Wednesday Session, Poster Wall #19 (Robert-Schumann-Room)

Abstract content

The PICO 500 dark matter detector at SNOLAB will be be filled with about one tonne of superheated C_3F_8 freon operating at a recoil threshold below 3keV. The new experiment will extend the reach for spin dependent interactions with a planned start of operation in 2019 at SNOLAB. The poster will provide an update on the status of the PICO 500 experiment and the dark matter sensitivity for spin dependent dark matter.

The large amount of active mass will allow PICO to detect supernovae from coherent neutrino scattering on fluorine at a distance of up to 10kpc. We have studied the expected event timing sequence to verify and potentially optimize the probability of PICO 500 detecting a significant signal.

Poster included in proceedings:

yes

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Session Classification : Poster Session Wednesday

Track Classification : Poster (not participating in poster prize competition)