



Contribution ID : 1055

Type : Oral presentation

Status of CoGeNT and C-4, and progress towards PICO-250l, a large bubble chamber for dark matter detection

Friday, 4 July 2014 10:35 (25)

We will discuss the status of CoGeNT and C-4, searches for low-mass WIMPs below $10 \text{ GeV}/c^2$. The performance of the first C-4 detector will be presented and compared to the previous generation of p-type point contact germanium detectors, employed in CoGeNT. First results from a sophisticated energy-time analysis of the 3.4 year CoGeNT dataset will be shown. This analysis considers not only the possibility of a WIMP signal from standard and non-standard galactic haloes, but also signatures from axion-like particles, as well as other scenarios able to account for a low-significance annual modulation.

We will also discuss the ongoing status of PICO-250l, a large bubble chamber containing C3F8 or CF3I, to be installed at SNOLAB. PICO is the merger of the PICASSO and COUPP collaborations. Ongoing related activities at SNOLAB (PICO-2l and COUPP-60) will be presented.

Summary

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Session Classification : Astroparticle Physics and Cosmology

Track Classification : Astroparticle Physics and Cosmology