



Contribution ID: 30

Type: **not specified**

## Monte Carlo simulations for bubble chambers

*Friday 26 April 2024 10:00 (20 minutes)*

The PICO collaboration has developed an active programme of dark matter detectors using bubble chambers filled with fluorocarbon fluids as targets. These detectors operated deep underground at SNOLAB, have an excellent capability to reject backgrounds owing to their insensitivity to electron recoil backgrounds. This talk will present the Monte Carlo model used to estimate the background contributions and assess detector response and calibration using radioactive sources. Detailed results will be provided for the expected backgrounds in the operational PICO-40L detector and the forthcoming ton-scale detector, PICO-500.

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**Session Classification:** Workshop