Contribution ID: **4** Type: **not specified**

Freon-filled bubble chambers to the neutrino floor

Monday 10 May 2021 12:20 (20 minutes)

Freon filled bubble chambers have several characteristics that strongly complement other dark matter search techniques. Starting operation in 2023, PICO-500 will be the focus of PICO scientific efforts through this decade. Larger detectors require a candidate material to replace the synthetic silica as the inner vessel container. Several candidate materials are under investigation, and PICO-500 can be a testbed for these materials later in the decade. By the end of the decade, a vetted design for a 50-ton detector sensitive to the neutrino floor would require a site at either SNOLAB or a similarly deep underground facility.
The technical requirements and scientific case for a 50-ton freon bubble chamber will be presented in relation to other developments in bubble chamber and dark matter detector technologies.

Presenter: ROBINSON, Alan (Université de Montréal)

Session Classification: Dark Matter Searches