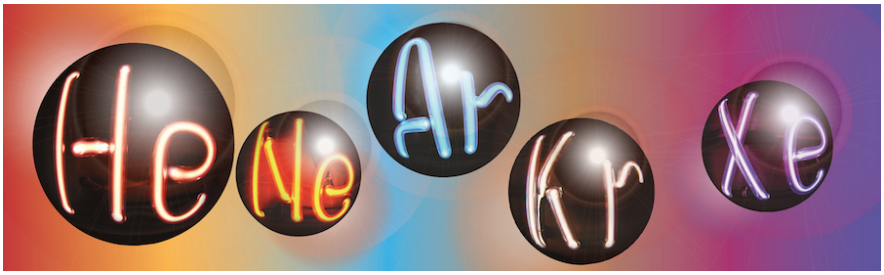

Contribution ID: **65** Type: **Either Presentation or Poster**

Nucleation efficiency of a liquid xenon bubble chamber

Thursday, 22 September 2022 09:45 (15 minutes)

Bubble chambers using liquid xenon (and liquid argon) have been operated (resp. planned) by the Scintillating Bubble Chamber (SBC) collaboration for GeV-scale dark matter searches and CEvNS from reactors. This requires a robust calibration program of the nucleation efficiency of low-energy nuclear recoils in these target media. Such experiments were performed with a liquid xenon test chamber, gathering data in varying operating conditions and from different neutron sources. The obtained bubble formation efficiency in liquid xenon as a function of recoil energy and thermodynamic state is presented. Parametric monte carlo studies were also carried out to validate the model paradigm.

Primary authors: DURNFORD, Daniel (University of Alberta); ON BEHALF OF THE SBC COLLABORATION

Presenter: DURNFORD, Daniel (University of Alberta)

Session Classification: Properties of noble liquids

Track Classification: Light/charge response in noble elements