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Type: **Poster (Non-Student) / Affiche (Non-étudiant(e))**

(POS-81) The NEWS-G experiment

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The NEWS-G experiment, located at SNO lab, aims for direct detection of WIMPs via nuclear recoils using Spherical Proportional Counter (SPC). Accurate measurement of the recoil energy requires knowledge of quenching factor (QF). Our past measurements were performed in Ne+CH₄ gas mixture at 2 bar. Next, we intend to measure QF for different gas mixtures with different detector parameters. To facilitate these in-beam QF measurements, we recently developed a novel technique to study SPC detector characteristics for different detector parameters for neutron scattering based experiments. We are also exploring the possibility to use the tandem accelerator at UdeM, which has the capability to reach neutron beam energy as low as 5 keV.

The poster will present the past measurement, current status, and the future plans of the NEWS-G collaboration in measuring QF. Along with the highlights of the new backing detector being built at Queen's University.

Session Classification: PPD Poster Session & Student Poster Competition (4) | Session d'affiches PPD et concours d'affiches étudiantes (4)