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Alpha Quenching Factor in Liquid Argon

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Mitigation of background events in liquid argon induced by alpha decays is important for detectors searching for Weakly Interacting Massive Particles (WIMP), theoretically motivated dark matter candidates. The quenching of alpha scintillation light must be understood to correctly account for and mitigate backgrounds from alpha particles. This work aims to measure the alpha quenching factor for liquid argon based on measurements of the scintillation light, using signals from alpha decays originating from ^{222}Rn, ^{218}Po and ^{214}Po isotopes. Details of the quenching analysis and fits to Birks'law for alpha quenching will be presented in this talk.

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