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Noble Element Simulation Techniquie (NEST): status and updates

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Noble element detectors (two-phase emission detectors, liquid phase-only detectors, etc.) have many applications in modern research. For example, they are broadly used in dark matter registration, non-standard neutrino interactions searches and even Standard Model processes observation (CEvNS). Modeling signal generation from these complicated interactions requires precise simulations. The main problem of modeling such phenomena is that various theoretical predictions are inconsistent with each other and compared to experimental data.

In this talk, the current status of NEST: Noble Element Simulation Technique, which is a simulation package dedicated to response of noble elements (xenon and argon) will be discussed and applicability to high energy ranges will be demonstrated. Also updated models on argon will be discussed, including S1 pulse shaping models.

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