Unconventional backgrounds in nEXO

VENKATESH VEERARAGHAVAN, Univ of Alabama - Tuscaloosa — The next-generation Enriched Xenon Observatory (nEXO) is a planned experiment utilizing 5 tonnes of isotopically-enriched liquid xenon in a time projection chamber (TPC) to search for neutrinoless double beta decay of $^{136}$Xe. The large, monolithic design of the nEXO TPC provides excellent shielding from the dominant background source - γ rays that originate from external materials. With an exceptionally clean central region of the TPC, we need to consider and quantify backgrounds that have previously been considered to be small relative to backgrounds from γ rays. I will present recent studies of two of these unconventional background sources - various low-energy neutron sources and $^{42}$Ar in enriched liquid xenon.

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