ID contributo: **41** Tipo: **Poster**

Study of Radon background in the SuperNEMO detector

martedì 18 giugno 2024 17:30 (2 ore)

The goal of the SuperNEMO experiment is the search for neutrinoless double-beta decay (0□□□), the observation of which would prove that the neutrino is a Majorana particle. As 0□□□ is a hypothetical and extremely rare process, it is essential to have the lowest level of background possible. 222Rn is a gaseous isotope which could emanate from the detector materials or diffuse from the air of the laboratory into the detector, and its daughter isotope 214Bi with Qb=3.27 MeV can contribute to the double-beta background. The 222Rn activity inside the SuperNEMO tracker demonstrator module must be significantly reduced down to 0.15 mBq/m3. This poster will detail anti-radon strategies used in SuperNEMO and present the status of the 222Rn analysis based on first data compared to simulation using the topology of the 214Bi-214Po decay event, i.e. one electron followed by a delayed alpha.

Poster prize

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