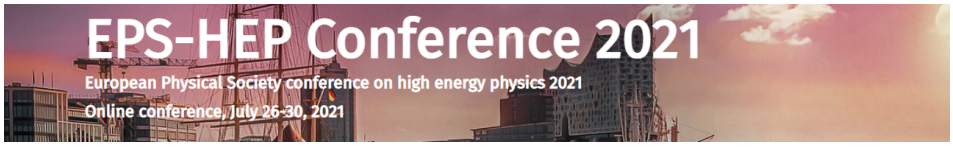

Contribution ID: **134** Type: **Parallel session talk**

RES-NOVA: archaeological Pb-based observatory for Supernova neutrino detection

Thursday 29 July 2021 16:30 (20 minutes)

RES-NOVA is a new proposed experiment for the hunt of neutrinos from core-collapse supernovae (SN) via coherent elastic neutrino-nucleus scattering (CEνNS) using an array of archaeological lead (Pb) based cryogenic detectors. The high CEνNS cross-section on Pb and the ultra-high radiopurity of archaeological Pb enable the operation of a high statistics experiment equally sensitive to all neutrino flavors. Thanks to these unique features, RES-NOVA will be as sensitive as the currently running neutrino observatories, while running a detector with a total active volume of only (60 cm)^3. RES-NOVA will be able to reconstruct the SN neutrino parameters with great accuracy (at the 10% level) and it will be sensitive to SN bursts from the entire Milky Way Galaxy with >5 σ statistical significance. The expected detector performance and sensitivity will be presented.

Collaboration / Activity

RES-NOVA

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