



Contribution ID: 33

Type: **talk**

Status of the NEXT experiment

Thursday, 19 September 2013 16:38 (19 minutes)

NEXT is an experimental program to search for neutrino double beta decay events using a High Pressure Gas Xenon Chamber with electroluminescence readout. The first phase of the experiment will use 100 kg of Xenon gas enriched to 91% in the ^{136}Xe isotope. NEXT-100 is currently under construction at Canfranc Underground Laboratory (Spain). The detector is an asymmetric time projection chamber with a plane of PMTs and a tracking plane of SiPMs located after an Electro-Luminescence grid. It boasts an excellent energy resolution, 0-5–0.7% FWHM at the Q value of the ^{136}Xe , and event topological information to identify signal and background. The status of the project, as well as the results obtained with NEXT large EL prototypes (NEXT-DBDM and NEXT-DEMO) will be presented, as well as the prospects to extrapolate the technique to the ton scale.

Primary authors: HERNANDO MORATA, Jose Angel (Universidade de Santiago de Compostela (ES)); GOMEZ CADENAS, Juan Jose (Universidad de Valencia (ES))

Presenter: HERNANDO MORATA, Jose Angel (Universidade de Santiago de Compostela (ES))

Session Classification: Working Group 2

Track Classification: Working Group 2