Contribution ID: **73**   Type: **Oral**

PRELIMINARY RESULTS OF ANAIS-25 AT THE CANFRANC UNDERGROUND LABORATORY

Thursday 12 September 2013 16:00 (20 minutes)

The ANAIS (Annual Modulation with NaI(Tl) Scintillators) experiment aims at the confirmation of the DAMA/LIBRA signal using the same target and technique at the Canfranc Underground Laboratory. 250 kg of ultrapure NaI(Tl) crystals will be used as target, divided into 20 modules, 12.5 kg mass each, and coupled to two high efficiency photomultipliers. The ANAIS-25 set-up consists of two prototypes, grown from a powder having a potassium level under the limit of our analytical techniques: 25 kg NaI(Tl) target in total. Preliminary results will be presented. The background measured by these two modules has been carefully studied: their natural potassium content in the bulk has been quantified, as well as the uranium and thorium radioactive chains presence in the bulk through the discrimination of the corresponding alpha events by PSA and coincidence techniques, and due to the fast commissioning, the contribution from cosmogenic activated isotopes is clearly identified and their decay observed along the first months of data taking. Background seems to be nicely explained by our background model carried out with a Geant4 simulation and previously applied to another prototype, ANAIS-0, having a much larger potassium content. We will present also other related results concerning bulk NaI(Tl) scintillation events selection, light collection efficiency, environmental parameters in the laboratory and very slow scintillation time constants in our detectors.

Author: SARSA, Maria Luisa (Univ. Zaragosa)

Co-authors: ORTIZ DE SOLÓRZANO, A. (Univ. of Zaragoza); GINESTRA, C. (Univ. of Zaragoza); POBES, C. (Univ. of Zaragoza); GARCÍA, E. (Univ. of Zaragoza); AMARÉ, J. (Univ. of Zaragoza); PUIMEDÓN, J. (Univ. of Zaragoza); VILLAR, J.A. (Univ. of Zaragoza); OLIVÁN, M. A. (Univ. of Zargoza); VILLAR, P. (Univ. of Zaragoza); CEBRIÁN, S. (Univ. of Zaragoza); ORTIGOZA, Y. (Univ. of Zaragoza)

Presenter: SARSA, Maria Luisa (Univ. Zaragosa)

Session Classification: Dark Matter VIII

Track Classification: Dark Matter