



Contribution ID: 256

Type: Oral

## BiPo: A Dedicated Radiopurity Detector for the SuperNEMO Experiment

*Tuesday, 22 May 2012 12:05 (20 minutes)*

New generation experiments in Astroparticle Physics need to operate in really restrictive background conditions, which implies the use of high radiopure materials for the experimental setup construction. For this reason the screening of the materials with enough sensitivity has become a challenge that sometimes cannot be afforded with standard techniques like Germanium detector spectroscopy.

BiPo is a dedicated detector, that will operate in the Canfranc Underground Laboratory, designed to measure the radiopurity, mainly of the bb sources of the SuperNEMO experiment, by the detection of BiPo events. But also has been recently considered to measure other elements of the SuperNEMO experimental setup. It is composed of two modules with 40 optical lines each that register the energy and the time of the emitted particles. The well known features of the BiPo events (delayed coincidence between an electron and an alpha particle) facilitate the discrimination of other background events that could entangle the expected signal. In addition, the geometry of the detector, with an active area of around  $3.6 \text{ m}^2$ , has been optimized to reach the necessary sensitivity levels for the SuperNEMO source foils in the shortest time possible. Main features of the detector, present status and prospects and its crucial role inside the SuperNEMO schedule will be presented in this talk.

**Primary author:** Dr GOMEZ, Hector (LAL-Orsay)

**Presenter:** Dr GOMEZ, Hector (LAL-Orsay)

**Session Classification:** Calorimetry

**Track Classification:** S8 - Calorimetry