Contribution ID: **28** Type: **not specified**

MaGe: a MC Framework for Gerda and Majorana Experiments

Thursday 13 September 2007 16:40 (20 minutes)

Summary

The Gerda and Majorana experiments, both searching for the neutrinoless double beta-decay of Ge-76, are jointly developing a single Monte Carlo framework called MaGe, which is based on the GEANT4 toolkit. Such a joint approach has many benefits: the development of common tools can be shared, the code is not duplicated and can be more quickly tested, and more experimental data can be made available for validation. Geant4 was selected as the underlying Monte Carlo toolkit because (1) it can provide the full simulation chain, (2) it is now well-established in the Particle Physics community and (3) it includes a wide set of physics models. On the other hand, the Object Oriented structure of Geant4 is very suitable for the development of a common framework considering the geographical distribution of the groups partecipating in MaGe. Furthermore, the flexibility of the Object Oriented (OO) interfaces also enables each experiment to take care independently of its specific tools, like geometries. In this talk the MaGe framework will be described; selected physics applications will be presented and discussed.

Presenter: PANDOLA, Luciano (INFN, Gran Sasso National Laboratory, Italy)

Session Classification: Parallel Session 1 (b) - Low Background Experiments

Track Classification: Geant4 Users Conference : Low background