Type: Oral presentation

The African LaBr Array - ALBA

Friday 25 May 2018 09:40 (20 minutes)

A project to increase the γ -ray detection efficiency of the iThemba LABS setup was recently funded by the South African National Research Foundation (NRF). This project will result in the acquisition and installation of the γ -ray detector array ALBA (African LaBr Array), composed of 23 large volume LaBr3:Ce. The array could be used as a stand-alone gamma-ray spectrometer as well as coupled to the K600 spectrometer or to silicon-detector arrays for the particle identification.

This unique experimental setup would allow for new generation of studies where the γ -decay probability has been too low to be investigated with the arrays currently available worldwide. The study of the giant and pygmy resonances as well as the investigation of the nuclear level density and gamma strength function are of particular interest.

The first five detectors of ALBA arrived in December 2018 and they are now being characterised in term of energy/time resolution and efficiency. The project and the preliminary results will be presented.

Author: PELLEGRI, Luna (University of the Witwatersrand and iThemba LABS)

Co-authors: WIEDEKING, Mathis (iThemba LABS); Prof. PAPKA, Paul (Department of Physics, Stellenbosch University, Stellenbosch, South Africa); Dr JONES, Pete (iThemba LABS); Dr NEVELING, Retief (iThemba LABS); Dr SMIT, Frederik D (iThemba LABS); SIDERAS HADDAD, Elias (University of the Witwatersrand (ZA)); JIVAN, Harshna (University of the Witwatersrand (ZA)); Ms JONGILE, Sandile (Department of Physics, Stellenbosch University, Stellenbosch, South Africa)

Presenter: PELLEGRI, Luna (University of the Witwatersrand and iThemba LABS)

Session Classification: session 11