



ID de Contribution: 102

Type: Non spécifié

## Development of an advanced Compton telescope prototype for MeV-range gamma-ray astronomy

*lundi 30 novembre 2020 20:30 (30 minutes)*

An advanced Compton telescope appears to be the best instrument concept for the next generation gamma-ray space observatory in the MeV range. A first prototype of advanced Compton telescope is being developed to match the constraints of a nano-satellite mission, with the scientific objective of measuring gamma-ray burst prompt emission polarization. Instrumental developments at CSNSM for this project are focusing on the position-sensitive calorimeter module with a monolithic scintillator and pixelated photodetectors. The 3D position of interacting gamma rays is obtained with deep learning algorithms. In a second part of the study, simulations will be performed to assess the imaging and polarimetric capabilities of the nano-satellite's instrument. We will also make test measurements with the prototype, as part of a particle accelerator experiment or during a stratospheric balloon flight.

**Auteur principal:** M. LAVIRON, Adrien (CSNSM, Université Paris-Sud/CNRS IN2P3)

**Orateur:** M. LAVIRON, Adrien (CSNSM, Université Paris-Sud/CNRS IN2P3)

**Classification de Session:** Theme 4