# Background modelling for COSI and future gamma-ray telescopes

Savitri Gallego*†[1]

[1]Johannes Gutenberg Universität Mainz – Germany

**Abstract**

The Compton Spectrometer and Imager (COSI) is a gamma-ray telescope in low-Earth orbit selected by NASA as a Small Explorer satellite mission to be launched in 2027. COSI employs a novel Compton telescope, consisting of a compact array of cross-strip germanium detectors. Owing to its wide field-of-view and excellent energy resolution, COSI will achieve an unprecedented sensitivity in the 0.2-5 MeV energy band. As shown by INTEGRAL/SPI mission, gamma-ray satellites at these energies are highly dominated by background. Developing a physical understanding and an accurate model of the background is therefore key to maximizing the instrument's sensitivity. In this talk, I will present the full bottom-up simulations of the gamma-ray background computed for the new COSI data challenge and some analysis results using this model.

*Speaker
†Corresponding author: