



Contribution ID: 131

Type: **Parallel Talk**

Closing In on The MeV Gap - An Introduction to Compton Spectrometer and Imager (COSI)

Thursday 11 August 2022 15:00 (20 minutes)

The Compton Spectrometer and Imager (COSI) is a Small Explorer (SMEX) satellite mission selected by NASA for development. COSI is a wide-field telescope designed to survey the entire gamma-ray sky at 0.2-5 MeV. It provides imaging, spectroscopy, and polarimetry of astrophysical sources, and its germanium detectors provide excellent energy resolution for emission line studies. The science goals for COSI include studies of 511 keV emission from antimatter annihilation in the Galaxy, mapping radioactive elements from nucleosynthesis, determining emission mechanisms and source geometries with polarization, and detecting and localizing multimessenger sources. The instantaneous field of view for the germanium detectors is 25% of the sky, and they are surrounded on the sides and bottom by active shields, providing background rejection as well as allowing for detection of gamma-ray bursts or other gamma-ray flares over most of the sky. In addition, with improved sensitivity over previous missions, COSI's all-sky MeV survey explores new discovery space. In this presentation, an overview of the COSI science and instrument design will be covered, as well as some insights into the detector readout instrumentation and data analysis pipeline tools, currently being developed for the satellite mission.

Collaboration name

COSI

Author: ROBERTS, Jarred (University of California San Diego)**Co-authors:** Dr TOMSICK, John (University of California Berkeley); Dr BOGGS, Steven (University of California San Diego); Dr ANDREAS, Zoglauer (University of California Berkeley); SIEGERT, Thomas (JMU Würzburg); Ms BEECHERT, Jacqueline (University of California Berkeley); Ms LAZAR, Hadar (University of California Berkeley); WULF, Eric (Naval Research Laboratory); Dr KARWIN, Chris (Clemson University)**Presenter:** ROBERTS, Jarred (University of California San Diego)**Session Classification:** Extragalactic Sources**Track Classification:** Gamma Rays