

MGEANT - A GEANT-Based Multi-Purpose Simulation Package for Gamma-Ray Astronomy Missions

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We present a multi-purpose simulation package based on GEANT and the CERN Program Library. This package allows for the rapid prototyping of a wide variety of gamma-ray detector systems. The two main advantages of this package over standard GEANT simulations are 1) the detector geometry and material data are supplied via input files instead of being hard coded and 2) MGEANT has several built in spectral and beam options including the ability to simulate observations with multiple pointings and diffuse sources. We are currently using MGEANT to produce detailed observation simulations and response matrices for INTEGRAL/SPI. This software package is available from our website <http://lheawww.gsfc.nasa.gov/docs/gamcosray/legr/integral/>.