

## **THE ISOTROPIC COSMIC GAMMA-RAY BACKGROUND WITH SMM**

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Given the Solar Maximum Mission (SMM) Gamma-Ray Spectrometer's (GRS) nine years of exposure and large field of view, its data contain a tremendously significant signal from the isotropic cosmic gamma-ray background (CGB) in the energy range 0.3 - 8.0 MeV. We have extracted this signal by modeling its modulation by the Earth's motion through the GRS field of view, along with several other background components such as from the SAA and Earth Albedo gamma rays.

We can quantify the success of the technique and evaluate possible systematic errors because we have many independent measurements of the CGB, which should be constant in time, and because all known other background components have narrow lines that should not be present in the CGB. We find reasonably good agreement between two different analysis methods. We compare the CGB spectrum with line emission from iron production in thermonuclear supernovae, and conclude that some other source(s) must dominate the 1 MeV region.