

Space Science Seminar
Tuesday, 2015 June 23
10:30 a.m.
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**Development of a Hard X-ray Polarimeter for
Studying Gamma-Ray Bursts**

Dr. Stephen Daigle / Astrophysics, NASA/Marshall Space Flight Center

Observations of gamma-ray bursts have revealed that they are the most luminous explosions in the Universe. After more than 40 years since their discovery, our understanding of the gamma-ray burst emission mechanism is still incomplete. An accurate polarization measurement of the prompt emission would provide new information that could validate or exclude some theoretical emission models. Marshall Space Flight Center is developing the Large Area burst Polarimeter (LEAP) in collaboration with Yamagata University in Japan. LEAP is a wide field-of-view, hard X-ray detector designed to mount on the International Space Station. This talk will examine the Monte Carlo simulation used to optimize the detector geometry, the expected performance of LEAP, and our plans to construct a prototype.

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