

Abstract Submitted
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Exploring the Extreme Multimessenger Universe with AMEGO

JULIE MCENERY, NASA Goddard Space Flight Center, AMEGO TEAM — Gamma-ray observations have played a critical role in every multimessenger source identified to date including gamma-ray lines seen from SN1987A, a nearby neutrino source; a gamma-ray burst from the neutron star merger event GW170817A; and a gamma-ray flare from the active galaxy TXS 0506+056, the first identified counterpart to a high-energy neutrino source. In each of these cases, the gamma-ray observations were critical to understanding the underlying physical phenomena driving these extremely energetic sources. The All-sky Medium Energy Gamma-ray Observatory (AMEGO) is a probe class mission that will provide ground-breaking new capabilities for multimessenger astrophysics - identifying and studying the astrophysical objects that produce gravitational waves and neutrinos. In this talk, I will describe how AMEGO's performance more than an order of magnitude better than previous MeV gamma-ray missions, will lead to a revolution in multimessenger astrophysics.

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