

Abstract Submitted  
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**All Sky Medium Energy Gamma-ray Observatory (AMEGO):  
Exploring the Extreme Multimessenger Universe** JEREMY PERKINS,  
NASA/GSFC, AMEGO TEAM — The All sky Medium Energy Gamma-ray Ob-  
servatory (AMEGO) is a probe class mission that will provide ground breaking new  
capabilities for multi-messenger astrophysics - identifying and studying the astro-  
physical objects that produce gravitational waves and neutrinos; along with a rich  
menu of additional science in astrophysical jets, compact objects, dark matter and  
nuclear line spectroscopy. AMEGO will cover the energy range from 200 keV to over  
20 GeV, with more than an order of magnitude improvement in sensitivity relative  
to previous missions. AMEGO provides breakthrough capabilities in three areas  
of MeV astrophysics: nuclear line spectroscopy will provide new insight into the  
currently topical area of element formation in dynamic environments; polarization  
capabilities will uniquely probe conditions and processes in astrophysical jets and in  
the magnetospheres and winds of compact objects; a wide field of view and broad  
energy range provide outstanding capability in time domain and multi-messenger  
astrophysics with excellent synergies with observations at other wavelengths.

Jeremy Perkins  
NASA Goddard Space Flight Center

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