

Abstract Submitted
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Depicting the Gamma-ray Realm with the All-sky Medium Energy Gamma-Ray Observatory (AMEGO)¹ SARA BUSON, NASA/GSFC, COMPAIR TEAM² — The energy band from a few hundred keV to a few hundred GeV offers a unique window for studying both thermal and the non-thermal astrophysical processes. Important science can be gleaned from investigations of emission mechanisms and environments of the most extreme objects that populate this mostly unexplored energy range. The All-sky Medium Energy Gamma-Ray Observatory (AMEGO) is a next-generation mission concept building on the pioneering observations by COMPEL, on the Compton Gamma-Ray Observatory, and the heritage of recent successful missions, such as Fermi-LAT, AGILE, AMS and PAMELA. With its capability of detecting both Compton-scattering events at lower energy and pair-production events at higher energy, AMEGO can explore the energy regime from 300 keV to > 10 GeV with unprecedented sensitivity. We describe the concept of this wide-aperture instrument and discuss its power to address fundamental questions from a broad variety of astrophysical topics.

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²The ComPair concept is a joint effort of NASA/GSFC, NRL, UMD, Clemson Univ., Washington Univ., UCSC and SCIPP.

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