

Abstract Submitted
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Extending Fermi LAT discoveries: Compton-Pair Production Space Telescope (ComPair) for MeV Gamma-ray Astronomy ALEXANDER MOISEEV, CRESST/NASA/GSFC and University of Maryland, College Park, ELIZABETH HAYS, JOHN MITCHELL, JULIE MCENERY, JEREMY PERKINS, DAVID THOMPSON, NASA/GSFC — The gamma-ray energy range from a few hundred keV to a few hundred MeV has remained largely unexplored, mainly due to the challenging nature of the measurements, since the pioneering, but limited, observations by COMPTEL on the Compton Gamma-Ray Observatory (1991-2000). This energy range is a transition region between thermal and non-thermal processes, and accurate measurements are critical for answering a broad range of astrophysical questions. We are developing a MIDEX-scale wide-aperture discovery mission, ComPair (Compton-Pair Production Space Telescope), to investigate the energy range from ~ 300 keV to 1-10 GeV with high energy and angular resolution and with sensitivity approaching a factor of 100 better than COMPTEL. This instrument will be equally capable to detect both Compton-scattering events at lower energy and pair-production events at higher energy. ComPair will build on the heritage of successful space missions including Fermi LAT, AGILE and PAMELA, and will utilize well-developed space-qualified detector technologies including silicon strip detectors, heavy inorganic scintillators, and plastic scintillators.

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