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The Second Fermi Large Area Telescope GRB Catalog DANIEL KOCEVSKI, NASA Marshall Space Flight Center, FERMI LARGE AREA TELESCOPE COLLABORATION — The high-energy emission from gamma-ray bursts (GRBs) is a formidable probe of extreme physics, requiring rapid variability from highly relativistic sources. Despite the advancements in our understanding of GRBs through observations by NASA's Swift and Fermi spacecraft, many fundamental questions regarding the particle acceleration and radiative processes associated with these events remain unanswered. Here we present the most extensive search for emission from GRBs above 40 MeV performed by the Fermi Large Area Telescope (LAT). The resulting catalog includes more than 130 detections and represents an improvement in the detection efficiency of GRBs at high-energies of over 50% compared to the first LAT GRB catalog. We utilize this improved sensitivity to characterize the high-energy emission from GRBs and review how these observations further our understanding of the nature of these events.

Daniel Kocevski
NASA Marshall Space Flight Center

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