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Fermi GBM Counterparts to LIGO Gravitational-Wave Candidates JUDITH RACUSIN, NASA/GSFC, LINDY BLACKBURN, Cfa, MICHAEL BRIGGS, ERIC BURNS, University of Alabama in Huntsville, JORDAN CAMP, NASA/GSFC, TITO DAL CANTON, AEI, Hannover, NELSON CHRISTENSEN, Carleton College, VALERIE CONNAUGHTON, Universities Space Research Association, ADAM GOLDSTEIN, NASA/MSFC, PETER JENKE, University of Alabama in Huntsville, TYSON LITTENBERG, Universities Space Research Association, PETER SHAWHAN, University of Maryland, LEO SINGER, NASA/GSFC, JOHN VEITCH, University of Birmingham, COLLEEN WILSON-HODGE, NASA/MSFC, BINBIN ZHANG, University of Alabama in Huntsville — As advanced LIGO begins operations, we eagerly anticipate the detection of gravitational waves (GW) in coincidence with a gamma-ray signal from the Fermi Gamma-ray Burst Monitor (GBM). The most likely source is a short Gamma-Ray Burst (GRB) arising from the merger of two neutron stars. With its broad sky coverage, GBM triggers and localizes more short GRBs than other active space missions, 45 each year, with an estimate of ¡1-5 within the LIGO detection horizon. Combining GBM and LIGO localization uncertainty regions may provide a smaller region for GW host searches. A joint GBM-LIGO detection increases the confidence in the GW detection and helps characterize the parameters of the merger. Offline searches for weak GRBs that fail to trigger onboard Fermi indicate that additional short GRBs can be detected in the GBM data. I will discuss joint searches to detect and localize GW candidates, and explore how the non-detection in the GBM data of a signal consistent with GW candidates in the LIGO data can affect follow-up strategies for counterpart searches by other observers.

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