

Searches for Neutrinos from Precursors and Afterglows of Gamma-Ray Bursts using the IceCube Neutrino Observatory

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- Gamma-ray bursts (GRBs) are possible sources of ultra-high-energy cosmic rays, which makes them promising neutrino source candidates.
- Previous IceCube searches for neutrino correlations with GRBs focused on the prompt (main emission) phase of the GRB and found no significant correlation between neutrino events and the observed GRBs.
- We present results from four model-independent analyses using 7.5 years of IceCube data searching beyond the prompt phase.
- Two of these analyses scan different time-windows for possible neutrino emission, while the other two target precursor emission based on GRB precursor observations by Fermi-GBM.
- All four analyses report results consistent with background expectations.
- Future limits will constrain neutrino fluxes from GRBs.