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All-Sky Search for Neutrinos Correlated with Gamma-Ray Bursts in Extended Time Windows Using Eight Years of IceCube Data¹ ELIZABETH FRIEDMAN, University of Maryland, College Park, ICECUBE COLLABORATION — Since the discovery of a diffuse astrophysical neutrino flux by the IceCube Neutrino Observatory, many sources have been studied as possible progenitors of high-energy neutrinos. In particular, gamma-ray bursts (GRBs) have been considered as possible neutrino sources due to their extremely high energy output. Several analyses with IceCube data have set strong limits on prompt neutrino emission from GRBs; however, there has been limited study of neutrino emission beyond the prompt phase. This analysis searches ten time windows for each GRB, ranging from ten seconds to fourteen days, to measure both prompt and possible extended neutrino emission. Eight years of full-detector IceCube data will be used in this analysis, which includes over two thousand GRBs for increased sensitivity over previous searches.

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