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Search for gravitational waves associated with Gamma Ray Bursts during the LIGO-Virgo run O3b

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We present the search for gravitational waves associated with Gamma Ray Bursts (GRBs) detected by the Fermi and Swift satellites during the second part of the third observing run (O3b) of Advanced LIGO and Advanced Virgo, from 2019 November 1 to 2020 March 27. This search is carried out with two different methods, a modeled search targeting compact binary mergers with at least one neutron star, which is used for 17 short GRBs, and a search for generic transients, used for all the 86 GRBs. We find no statistically significant gravitational wave signal associated with any of these GRBs. Considering several source types and signal morphologies, we set lower bounds on the estimated distance to each GRB.

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