

SGRB rate from Yonetoku relation for SGRB and the detectability of GW in O2 of aLIGO/aVirgo

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ABSTRACT

Using 8 SGRB with E_p , z and L_p , Tsutsui et al. (2013) obtained Yonetoku relation for SGRB. Applying this relation to bright BATSE SGRBs, the minimum event rate of SGRB is $6.3^{(+3.1)}_{(-3.9)} \times 10^{-10}$ events/Mpc³/yr. Under the assumption of beaming factor of 100 and 4 times dimmer SGRBs, if 10% of SGRB is NS-BH or 100% is NS-NS, there is a good chance to observe a few GW events in O2 of aLIGO/aVirgo so that MAXI might see something at the same time.