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A Template-based Search for GW190521 and other Intermediate Mass Black Hole Binaries[1] DEBNANDINI MUKHERJEE, Pennsylvania State University, ADVANCED LIGO-VIRGO COLLABORATION — GW190521 is the heaviest black hole binary coalescence seen yet with its total mass being about 150 solar masses. In general, intermediate mass black holes (IMBHs) are known to have masses in the range of 100 to 100,000 solar masses and they make up the mass space between the stellar mass and the supermassive black holes. Observation rates of gravitational wave sources with at least one IMBH component, would help constrain their formation channel, which is uncertain at present. In my talk I will discuss the search for sources like GW190521 using pre-computed waveform templates, by executing a matched-filter based search technique known as the GstLAL search. I will also provide an update for the all sky search for IMBHs by GstLAL in the 3rd observing run.

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