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Optical followup of gravitational wave events by the DESGW group during LIGO/VIRGO O3[1] JAMES ANNIS, KEN HERNER, Fermilab, MARCELLE SOARES-SANTOS, ALYSSA GARCIA, Brandeis, ROB MORGAN, U. Wisconsin Madison, NORA SHERMAN, Brandeis — The Dark Energy Camera on the CTIO Blanco telescope has been used to follow up LIGO/Virgo gravitational wave events since the first such event in 2015. CTIO is evolving the way it is being used towards being a facility for gravitational wave source electromagnetic counterpart identification. At present, three different groups share target of opportunity data from events triggered for followup by one group or another. Our group, DESGW, consists of members of the Dark Energy Survey, LIGO, and the larger astronomical community. In this talk we present our analyses of the GW events for which the Blanco/DECam triggered during the third LIGO/Virgo observing season (O3; beginning April 2019). We will discuss our observing strategies, the search and discovery pipeline, and candidate identification processes. We describe the spectroscopic followup of compelling candidates with other instruments in order to better classify them as potential real counterparts or false positives. In O3 we followed up binary black holes, a binary neutron star merger, and a neutron star-black hole merger.

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