

## Search for dark matter gamma-ray emission from the Andromeda Galaxy with LHAASO Observations

The Andromeda Galaxy (M31) is a nearby ( $\sim 780$  kpc) galaxy similar to our own Milky Way. Observational evidence suggests that it resides in a large halo of dark matter (DM), making it a good target for DM searches. We present a search for gamma rays from M31 using data from the LHAASO Observations. With its wide field of view and constant monitoring, LHAASO is well-suited to search for DM in extended targets like M31. No DM annihilation or decay signal was detected for DM masses from 10 TeV to 1 EeV in the  $b\bar{b}$ ,  $t\bar{t}$ ,  $\tau^+\tau^-$ ,  $\mu^+\mu^-$  and  $W^+W^-$  channels. Therefore we present our preliminary limits on those processes.

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