

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

The Andromeda Galaxy (M31) is a nearby (~ 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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