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Multi-wavelength study of the galactic PeVatron candidate LHAASO J2108+5157

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LHAASO J2108+5157 is the first gamma-ray source directly discovered in the Ultra-High-Energy band by the LHAASO collaboration. Two molecular clouds identified in the direction towards LHAASO J2108+5157 make the source a promising galactic PeVatron candidate. In 2021, the Large-Sized Telescope prototype (LST-1) of the Cherenkov Telescope Array (CTA) Observatory performed observations of LHAASO J2108+5157, establishing constraining upper limits on the source emission in the multi-TeV band. Target of Opportunity XMM-Newton observations were also carried out in 2021, leading to strong constraints on the source X-ray emission. In this contribution, we will present multi-wavelength modeling of data from various instruments and discuss possible scenarios for the high energy emission of the source.

Collaboration name

the CTA-LST Project

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