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Spectrum and Morphology of the Ultra-High-Energy Source LHAASO J2018+3651

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The LHAASO J2018+3651 region is one of the brightest sources in the sky at TeV energies. Photons with energies up to ~ 0.27 PeV from this region have been detected with the Large High Altitude Air Shower Observatory (LHAASO) and here we present a detailed study of this region using more data from LHAASO. This analysis resolves the region into six sources: LHAASO J2018+3641, LHAASO J2019+3649, LHAASO J2021+3654, LHAASO J2016+3712, LHAASO J2013+3610 and LHAASO J2028+3701. An investigation of the morphology and spectrum for LHAASO J2018+3641, LHAASO J2019+3649 and LHAASO J2021+3654 are the focus of this work. We associate LHAASO J2019+3649 and LHAASO J2021+3654 with PSR J2021+3651 and its X-ray pulsar wind nebula. LHAASO J2018+3641 with the star formation region Sh 2-104. We associate LHAASO J2016+3712 with the evolved supernova remnant CTB 87 and LHAASO J2013+3610 with the evolved supernova remnant G073.9+00.9.

Collaboration(s)

on behalf of LHAASO Collaboration

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