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OBSERVATION OF GAMMA-RAY EMISSION FROM THE GALAXIES M 87 AND 3C 264 ABOVE 1 TeV WITH LHAASO

The giant radio galaxy M 87 with its proximity (16 Mpc), famous jet, and very massive black hole ($(3-6)\times 10^9 M_\odot$) provides a unique opportunity to investigate the origin of very high energy (VHE; E > 0.1 TeV) gamma-ray emission. It has been established as a VHE gamma-ray emitter since 2004. But the origin of the gamma-ray emission from M 87 is currently a matter of debate. Here we report the detection of gamma-ray emission above 1 TeV from M 87 with LHAASO. The gamma-ray emission is measured to be point-like with TS=28.45. The differential energy spectrum is fitted well by a power-law function with a photon index $\alpha = -2.77 \pm 0.21$. We find that a lepto-hadronic model is able to explain the VHE emission detected by LHAASO of M 87. Also, we report a radio galaxy 3C 264 with a marginal detection (TS=23.34) by LHAASO.

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