

Gamma-ray blazars at the dawn of the Universe

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A broadband study of high- z ($z > 3$) blazars enables us to understand the evolution of the properties of relativistic jets over cosmic time. Moreover, it has been found in many studies that such high- z blazars host extremely massive black holes ($M_{BH} > 1e9 M_{\odot}$) and thus shed a new light on the formation of supermassive black holes in the early Universe. Here we report the first detection of γ -ray emitting blazars beyond $z=3.1$ using the sensitive Pass 8 dataset of *Fermi*-LAT. They are found to host extremely massive black holes at their centers, as confirmed from both IR-UV continuum modeling with a standard accretion disk and also with the emission line measurements using optical spectroscopy. Further details of the results will be presented within the framework of the disk-jet connection in powerful jetted AGNs.

Summary

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