The possibility for the detection of the Sub-TeV gamma-ray emission from Fermi blazars

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Measurements of the very high energy (VHE) gamma-ray flux from high-redshift blazars are useful for understanding the cosmological evolution of galaxies, because gamma-ray emission from distant blazars is affected by Extragalactic Background Light (EBL). We searched for the detectable VHE gamma-ray blazars with known redshifts using Fermi archive data and selected three high-redshift sources, PKS 0118-272 (z=0.558), PKS 0454-234 (z=1.003) and PKS 1244-255 (z=0.633).

In addition, we investigated the possibility for the detection of VHE gamma-ray emission from a new flaring HE gamma-ray source which is not reported by the Second Fermi LAT Catalog (2FGL).

Compared to the sensitivity of H.E.S.S., MAGIC and CTA, VHE gamma-ray flux of these sources are not enough to be detected by existing grand-based Cherenkov telescopes (H.E.S.S., MAGIC), but would be possible to be detected with the next generation ground-based telescope (CTA).