

A13a **Do blazars have an additional spectral component in the TeV band?**

Yoshiyuki Inoue (ISAS/JAXA), Yasuyuki T. Tanaka (Hiroshima), Kohji Tsumura (Tohoku),  
Shuji Matsuura (Kwansei Gakuin)

TeV gamma-ray spectral hardening of blazars has been discussed for a long time. Recent precise gamma-ray measurements also indicate the existence of a new spectral component in some blazars in the TeV band even with low-level cosmic optical/infrared background (COB/CIB) radiation models. Such additional component is also reported in a nearby radio galaxy, Centaurus A core. However, the existence of the new spectral component has not been investigated in detail. We statistically test the existence of this additional component in TeV spectra of blazars using recent TeV blazar data sets and the latest COB/CIB models. Although most of blazars do not show such evidence, a few of them show statistically clear signature of an additional component in the TeV band. Furthermore, we have examined the effect of the NIR background excess. Recent various direct CIB measurements report the NIR background excess not only in the spectrum but also in the fluctuation. The origin of this excess is still under debate. Assuming the extragalactic origin for the excess, the new component disappears by adding the excess component, but overall spectra become brighter and harder. We will also discuss a possible origin of the CIB excess.