

On the minimum jet power of TeV BL Lac objects in the p-gamma model

We study the requirement on the jet power in the conventional p-gamma models (photo pion production and Bethe-Heitler pair production) for TeV BL Lac objects. We select a sample of TeV BL Lac objects whose SEDs are difficult to be explained by the one-zone leptonic model. Based on the relation between the p-gamma interaction efficiency and the opacity of absorption, we find that detection of TeV emission poses upper limits on the p-gamma interaction efficiencies in these sources and hence minimum jet powers can be derived accordingly. We find that the obtained minimum jet powers exceed the Eddington luminosity of the supermassive black holes. Implications for the accretion mode of the supermassive black hole in these BL Lac objects and the origin of their TeV emissions are discussed.

Primary author: Mr RUI, Xue (Nanjing University)

Presenter: Mr RUI, Xue (Nanjing University)

Session Classification: Poster session