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The ablation of gas clouds by blazar jets and the long-lasting flare in CTA 102

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Long-lasting, very bright multiwavelength flares of blazar jets are a curious phenomenon. The interaction of a large gas cloud with the jet of a blazar may serve as a reservoir of particles entrained by the jet. The size and density structure of the cloud then determine the duration and strength of the particle injection into the jet and the subsequent radiative outburst of the blazar. In this presentation, a comprehensive parameter study is provided showing the rich possibilities that this model offers. Additionally, we use this model to explain the 4-months long, symmetrical flare of the flat spectrum radio quasar CTA 102 in late 2016. During this flare, CTA 102 became one of the brightest blazars in the sky despite its large redshift of z=1.032.

Keywords

AGN; blazars; long-lasting flares

Collaboration

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