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The effect of expansion on high-energy emission from AGN jets

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Abstract content

We present a detailed study of the impact of jet expansion on the emission properties of blazars, in particular their gamma-ray lightcurves, based on the notion that the radiation is produced in an emission zone that is travelling down the jet. Using analytical estimates and numerical studies with a particular model of particle energization, we conclude that AGN jets must be very well collimated with opening angles smaller than about 1 mrad, if the emission seen over a few days is caused by an emission zone that travels down the jet. Our findings suggest that either this condition is not met or an unknown very efficient mechanism collimates the jets of blazars.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Oliveo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 3 (OG part 2), pages 977-980

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