

An association of a Fermi-LAT flaring activity with a blazar candidate behind the Large Magellanic Cloud

Friday, 16 April 2021 18:53 (3 minutes)

We present the results of a preliminary investigation of a potential association of a blazar candidate behind the Large Magellanic Cloud (LMC) and a gamma-ray transient object. The hint of flaring activity appeared at the position (RA,dec)~(86.60 deg,-69.02 deg), while the J0545-6846 blazar candidate is located at (RA,dec)=(86.47 deg,-68.77 deg). J0545-6846 is characterised by a particularly large radio flux of 176.3 mJy at 843 MHz, a high value of the radio-loudness parameter $R=6900$, and an integrated gamma-ray flux >1 GeV of $\sim 9.6 \times 10^{-12}$ erg cm⁻² s⁻¹.

We have analysed the Fermi-Large Area Telescope (LAT) data from the LMC region in order to verify the flaring activity detected in July/August 2008 and later in April 2015 in MeV and GeV energies, using the latest Fermi-LAT point source catalogue. The performed unbinned maximum likelihood analysis took into account the positions of all known point-like sources, diffuse emission as well as the advanced gas modelling from the investigated region.

Our preliminary analyses indicate positional consistency between J0545-6846 and the flaring activity in both periods. This suggests that the observed transient activities are related to the same blazar.

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Session Classification: AGN-3

Track Classification: AGN