

The blazar TXS 0506+056 associated with a high-energy neutrino: MAGIC VHE observations and multi-messenger implications

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In September 2017, the IceCube neutrino observatory revealed an event designated IceCube-170922A with a high probability of being of astrophysical origin.

The event was detected in spatial coincidence with the BL Lac object TXS 0506+056 during a period of enhanced GeV gamma-ray activity.

We monitored the object in the very-high-energy (VHE; $E > 100$ GeV) band with the MAGIC telescopes, clearly detecting the object.

This result marks the first time that VHE gamma rays have been measured from a direction consistent with a neutrino event.

In this talk, we interpret MAGIC results on TXS 0506+056 in a multi-wavelength and multi-messenger context and we discuss some implications.

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