

# Follow-up observations of GW170817 with the MAGIC telescopes

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The discovery of the electromagnetic counterpart AT2017gfo and the GRB 170817A, associated to the binary neutron star merger GW170817, was one of the major advances in the study of gamma-ray bursts (GRBs) and the hallmark of the multi-messenger astronomy with gravitational waves. Another breakthrough in GRB physics is represented by the discovery of the highly energetic, teraelectronvolt (TeV) component in the GRB 190114C, possibly a universal component in all GRBs. This conclusion is also suggested by the hint of TeV emission in the short GRB 160821B. The missing observational piece is the joint detection of TeV emission and gravitational waves from a short GRB and its progenitor.

MAGIC observed the counterpart AT2017gfo as soon as the visibility conditions allowed it, namely from January to June 2018. These observations correspond to the maximum flux level observed in the radio and X-ray bands. The upper limits derived from TeV observations are valuable constraining the modelling of the late non-thermal emission using the multi-frequency SED.

## Keywords

Gravitational waves, gamma-ray sources, GRB, non-thermal emission

## Collaboration

MAGIC

## other Collaboration

## Subcategory

Experimental Results

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