

# First detection of very high energy emission from a gamma-ray burst

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Gamma-ray bursts (GRBs) are the most luminous explosions in the Universe. Their nature has been well studied using enormous amounts of GRB data in a broad range of the electromagnetic spectrum, from radio frequencies up to GeV energies. However, several theoretical studies had been predicting TeV emission as well, but it could not be detected for a long time.

The MAGIC collaboration had been continuously improving its stereoscopic telescope system in order to detect GRBs. Its light-weight structure and automatic repositioning system allow to quickly point the telescopes towards any location in the sky within 30 seconds after a GRB alert is received. Also, the developments of observations at large zenith angles or under moonlight greatly extended the duty cycle of the telescopes, increasing MAGIC's capabilities in GRBs follow-up.

On January 14th, 2019, for the first time since its operation started 15 years ago, the MAGIC telescopes have undoubtedly detected a very high energy gamma-ray emission up to TeV energies from GRB 190114C. With a preliminary significance of over 20 sigma in the first 20 minutes of observation, this very strong detection started a wide campaign of multi-wavelength follow-up observations ranging from radio to infrared, optical, UV, X-ray and gamma-ray.

In this contribution, the data results such as light curve and time-resolved spectral energy distributions will be shown. Also, the theoretical interpretations of these results will be briefly discussed.

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