

## Executive summary contribution #305

**Title:** Observation of a relatively low luminosity long duration GRB 201015A by the MAGIC telescopes

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### What is this contribution about?

In this contribution we report the results of the MAGIC observation of a long GRB 201015A.

### Why is it relevant / interesting?

GRB 201015A is a relatively low luminosity GRB whose energy release in the prompt phase ( $10^{50}$  erg) is about  $3 \times 10^3$  times smaller than that of GRB 190114C detected by MAGIC and is similar to that of GRB 190829A detected by H.E.S.S. However its redshift of 0.42 is basically the same as that of GRB 190114C and is much larger than that of GRB 190829A ( $z = 0.0785$ ). If GRB 201015A is one of TeV-GRBs and we can detect this kind of relatively faint and far GRBs by IACTs, it would have a large impact both on theoretical models and on future prospects for GRB observations.

### What have we done?

We started observations of this GRB 33 seconds after the *Swift*-BAT trigger and performed careful analyses.

### What is the result?

We got a strong hint of detection of very high energy gamma-rays from GRB 201015A with a significance of  $3.5\sigma$ . A further refinement of the data analysis is planned to confirm the significance of the excess. This GRB would be one of the five GRBs detected by IACTs and would be in a dimmer class of the TeV-GRB family together with GRB 190829A.