

## LST-1 follow-up of the exceptionally bright gamma-ray burst GRB 221009A

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On October 9th, 2022, the brightest gamma-ray burst (GRB) ever recorded (GRB 221009A) was initially detected by the Fermi-GBM and Swift-BAT telescopes and subsequently by other satellite and ground-based instruments. Its remarkably bright emission, partially due to its close distance to Earth ( $z=0.151$ ), makes this GRB a unique event. The outstanding characteristics of GRB 221009A, including the TeV detection by the LHAASO experiment, triggered extensive follow-up observations of the source across all wavebands, including very-high-energy (VHE) gamma rays with the Large-Sized Telescope prototype (LST-1) of the future Cherenkov Telescope Array Observatory. LST-1 observations started about one day after the outburst, under strong moonlight conditions. The high night sky background challenged the follow-up with imaging atmospheric Cherenkov telescopes (IACTs) during the first days. The LST-1 observations of GRB 221009A are the first ones performed by an IACT and required a dedicated analysis procedure to obtain the best telescope performance under such extreme conditions. This resulted in a hint of a signal with a statistical significance of about  $4\sigma$  during the observations at 1.3 days. The monitoring of this source continued until the end of November 2022. This constitutes the deepest observation campaign performed on a GRB with the LST-1. In this contribution, we will present the analysis results of the LST-1 observation campaign on GRB 221009A in October 2022 and discuss them in a multiwavelength context.

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