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Título: GRB110715A: Challenging the forward shock afterglow theory with the first burst observed with ALMA

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Resumen:

We will present the extensive follow-up campaign on GRB110715A at 17 different wavelengths, from X-ray to radio bands, starting 81 seconds after the burst and extending up to 74 days later. This is the first data-set to include an afterglow observation from the ALMA observatory. The broadband afterglow emission is modeled with synchrotron radiation using a numerical algorithm and determine the best fit parameters using Bayesian inference in order to determine the physical parameters of the jet and the medium in which the relativistic shock propagates. Although the general behavior can be roughly described by these models, none of them are able to fully explain all data points simultaneously. GRB110715A shows the complexity of reproducing extensive multi-wavelength broadband afterglow observations, and the need of good sampling in wavelength and time and more complex models to accurately constrain the physics of GRB afterglows.