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## An External Shock Origin of GRB 141028A

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The prompt emission of the long, smooth, and single-pulsed gamma-ray burst, GRB 141028A, is analyzed under the guise of an external shock model. First, we fit the gamma-ray spectrum with a two-component photon model, namely synchrotron+blackbody, and then fit the recovered evolution of the synchrotron  $\nu F_\nu$  peak to an analytic model derived considering the emission of a relativistic blast-wave expanding into an external medium. The prediction of the model for the  $\nu F_\nu$  peak evolution matches well with the observations. We observe the blast-wave transitioning into the deceleration phase. Further we assume the expansion of the blast-wave to be nearly adiabatic, motivated by the low magnetic field deduced from the observations. This allows us to recover within an order of magnitude the flux density at the  $\nu F_\nu$  peak, which is remarkable considering the simplicity of the analytic model. Under this scenario we argue that the distinction between *prompt* and *afterglow* emission is superfluous as both early and late time emission emanate from the same source. While the external shock model is clearly not a universal solution, this analysis opens the possibility that at least some fraction of GRBs can be explained with an external shock origin of their prompt phase.

### Collaboration

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