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GRB 121027A: x-shooter redshift confirmation

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FROM: Thomas Kruehler at Dark Cosmology Center <tom@dark-cosmology.dk>

T. Kruehler (DARK), N. R. Tanvir (U. Leicester), A. de Ugarte Postigo (IAA-CSIC and DARK/NBI), D. Malesani (DARK), J. Fynbo (DARK), A. Melandri (INAF-OAB), A. J. Levan (U. Warwick), K. Wiersema (U. Leicester), S. Schulze (PUC and MCSS), P. Goldoni (APC,CEA/Irfu), H. Flores (Obs. Paris) and L. Kaper (U. Amsterdam) report on behalf of a larger collaboration:

We observed the optical/NIR counterpart (Starling et al. GCN 13911, Levan et al. GCN 13920, Sudilovsky et al. GCN 13926) of GRB 121027A (Evans et al. GCN 13906) with the VLT/X-shooter spectrograph, beginning at Oct 30 2012 04:52 UT, which is 2.89 days after the GRB.

We identify emission lines of [OIII]4959 and [OIII]5007, and several absorption lines of CIV, AIII, AIII, MgI, MgII and FeII at a common redshift of $z=1.773$. This confirms the provisional redshift given in Tanvir et al. (GCN 13929) for this GRB.

We note that the afterglow remains remarkably bright at 2.9 days post burst. From the photometry of the acquisition image, we measure $R = 21.15 \pm 0.05$ assuming $R = 15.96$ for the USNO star 0311-0027010 at RA = 04:14:21.83, Dec = -58:50:28.8.

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