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Title: Swift high redshift GRBs.
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Abstract

Swift is providing a rich return of high redshift $z > 4$ GRBs GRBs detected by Swift have a mean redshift $z \approx 2.2$ twice that of GRBs localized by previous missions Beppo-SAX HETE-2 INTEGRAL and the IPN $z \approx 1.33$ this increase in distance is a result of the much-increased sensitivity of Swift Indeed prior to Swift only one GRB had been detected beyond $z > 4$ GRB 000131 at $z \approx 4.5$ After one year of operations Swift has detected four confirmed high-redshift GRBs out of 24 with known redshifts GRB 050730 at $z \approx 3.969$ GRB 050505 at $z \approx 4.27$ GRB 050814 at $z \approx 5.3$ and GRB 050904 at $z \approx 6.29$ the most distant cosmic explosion ever observed All of the bursts are exceptionally luminous and long-lasting moreover their evolution in some cases GRB 050730 and GRB 050904 is very complex showing multiple episodes of X-ray flaring activity Their properties suggest that GRBs and possibly their progenitors are different at high redshift than at $z < 1$ We analyse the Swift XRT and BAT light curves and spectra of the sub sample of Swift GRBs at high redshift and concentrate on the classification of possible behaviours and burst properties timescales and energetics in the source rest frame We compare their properties with those observed for lower redshift GRBs and extensively explore the dependencies of burst and afterglow properties on the redshift

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