Possible VOEvents Projects with KAIT, PAIRITEL, and HETE

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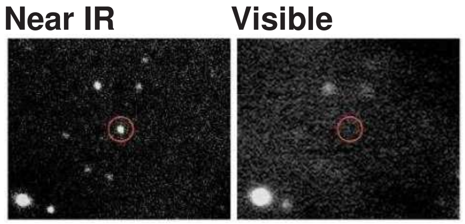
Inter Robot Communication, KAIT, PAIRITEL

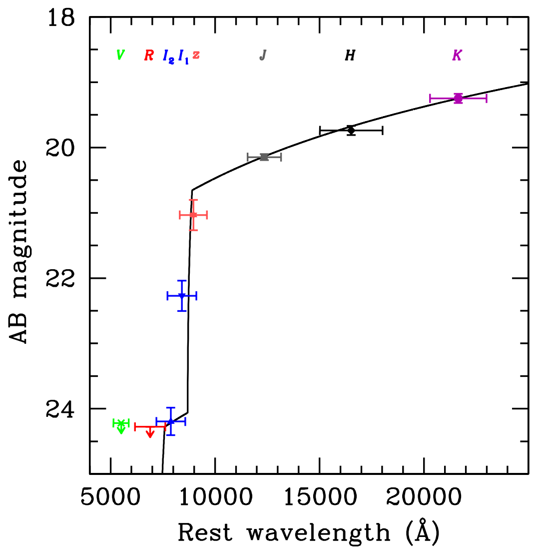
GRB 050904 detected by Swift BAT and XRT (*Cummings et al. 2005*)

Redshift of $z = 6.39 \pm 0.01$ measured by *Kawai et al. (2005)* at $t_{\rm GRB} + 3.5$ days.

We plan to to pair the robotic KAIT (plus UVOT) and PAIRITEL telescopes to rapidly detect GRBs at $z = 6 - 10$ (*see, e.g, Ciardi & Loeb 2000*).



Haislip et al. (2004)



Tagliaferri et al. (2005); see also, Price et al. (2005)

The PAIRITEL 1.3m Robotic Telescope

Whipple Observatory, North America's first fully robotic IR astronomy telescope.

System ran in survey mode for 4 years (2MASS catalog), very robust. Contiguous GRB operations began in December '04.

We hope to make an industry of detecting high-z bursts and determining extinction curves for "optically dark" GRBs.

Equatorial mount, Cassagrain (f/13.4)
3 NICMOS 256$\times$256 arrays, LN2 Cooled
2 arcsec/pixel, 8.5$\times$8.5 arcmin^2 FOV
J,H,K-band; $K = 17$mag (5σ) in 10min

http:/www.pairitel.org

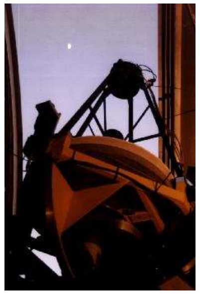
The KAIT 0.76m Robotic Telescope

I am developing an automated link between KAIT and PAIRITEL that will allow for rapid data comparison and the detection of IR dropouts.

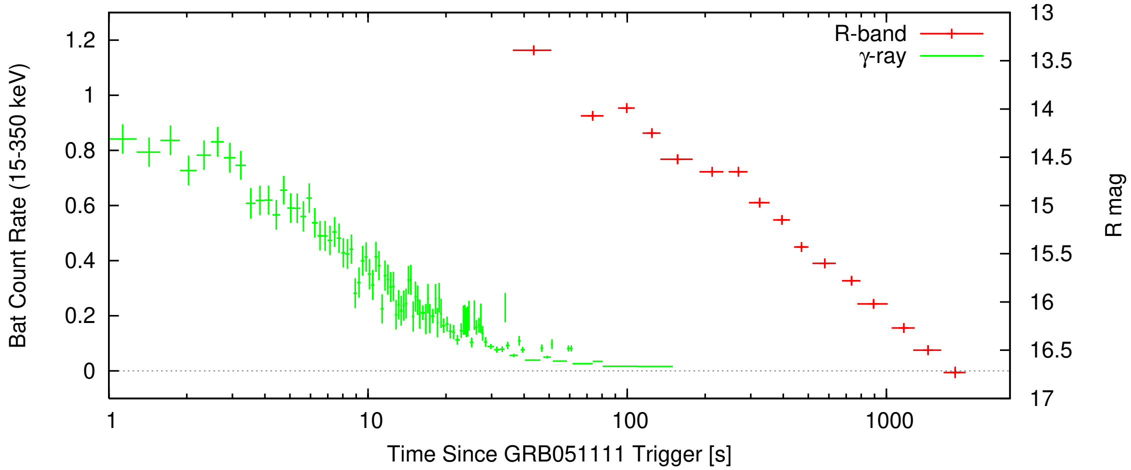
Can I use VOEvents messages to trigger PAIRITEL from KAIT (and vice versa)?

Messages would contain info on planned observations to facilitate simultaneity.

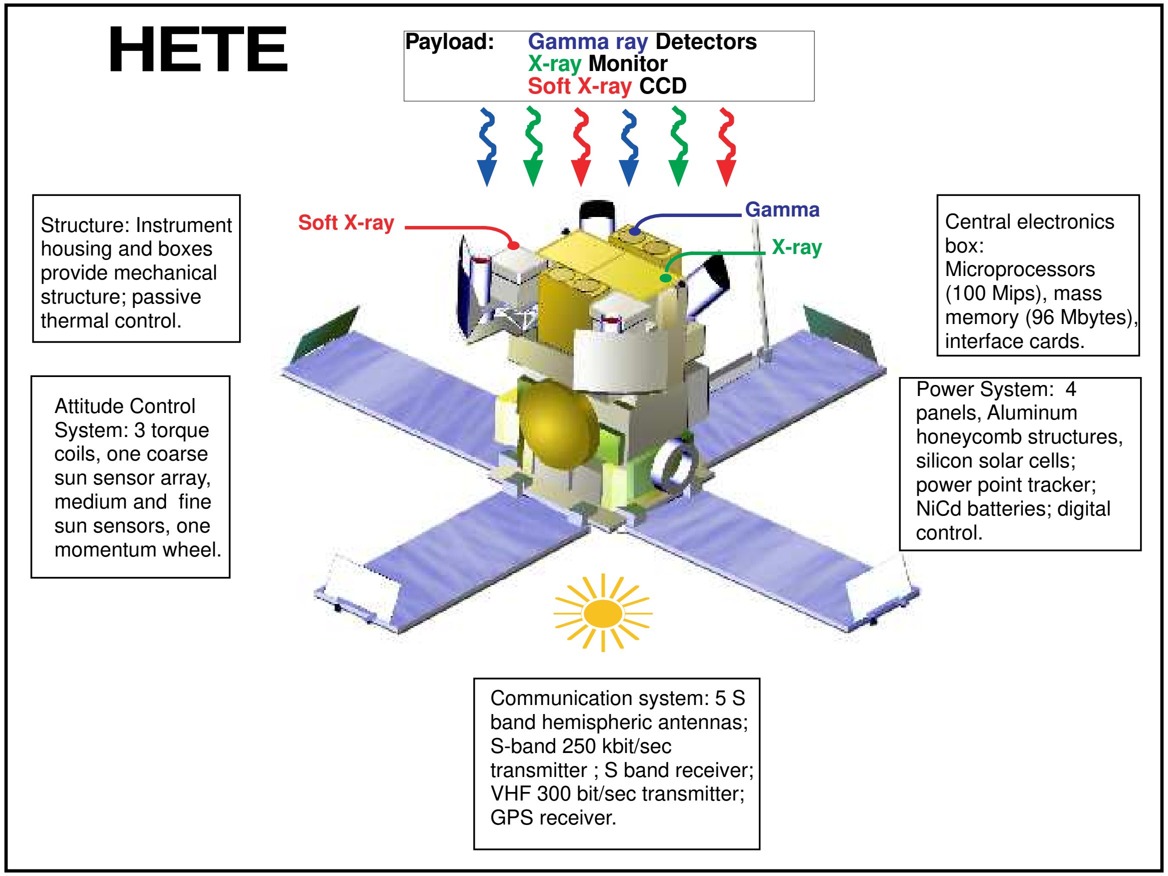
6.8'$\times$ 6.8' FOV, $R \sim 20$mag (4σ) in 5-min
http://astron.berkeley.edu/$\sim$bait/kait.html

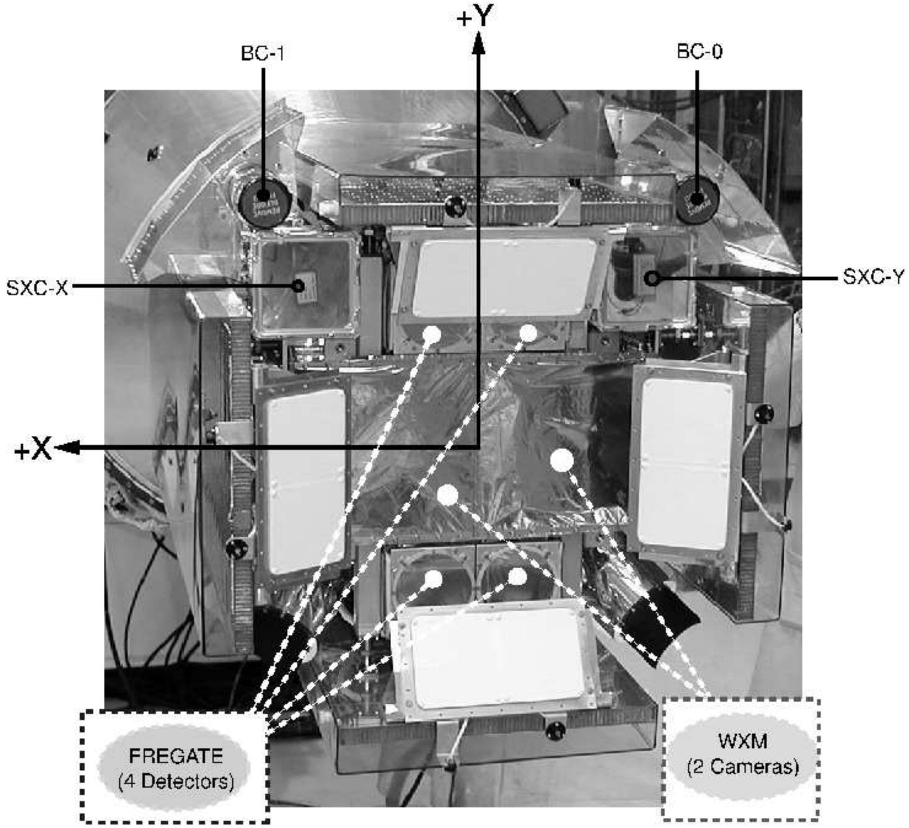


GRB 051111 at 35s, *Li et al. (2005)*



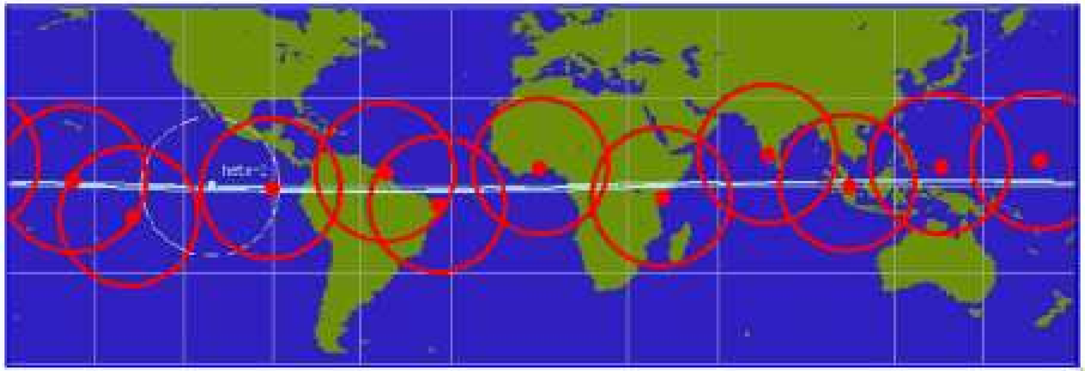
HETE + VOEvents





http://space.mit.edu/HETE

Can HETE Send Out Decentralized VOEvents Messages?



Site	Longitude	Latitude	Pass length*
Kwajalein	167.717 E	8.717 N	13.10 m
Christmas Island	157.1 W	1.9 N	13.93 m
Hiva Oa (French Polynesia)	139 W	9.78 S	12.93 m
Galapagos Island (Ecuador)	91.1 W	0.72 S	13.98 m
Cayenne (French Guiana)	51.9 W	4.9 N	13.71 m
Natal (Brazil)	35.13 W	5.47 S	13.64 m
Ascension Island (UK)	15W	7 S	m
Franceville (Gabon)	13 E	1 S	m
Malindi (Kenya)	40.19 E	3.00 S	13.86 m
Bangalore (India)	77.38 E	12.58 N	m
Singapore	103.83 E	1.33 N	13.96 m
Koror (Palau)	134.5 E	7.33 N	13.36 m

Need to broach idea with HETE Team.