Seven-year Konus GRB Catalog

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Abstract. A complete catalog of all Konus gamma ray burst (GRB) event profiles, collected from GGS-Wind launch in November, 1994 to the present, is under development and will be processed in CD form. All Konus GRB and soft gamma repeater (SGR) event data are presently available on the GCN Web site[1], with over 850 GRB and over 75 SGR event profiles logged. The location of the Wind spacecraft, always outside the magnetosphere, provides a steady background which may facilitate precise GRB phenomenological studies.

SUMMARY

The Konus experiment has been active on board the GGS-Wind spacecraft for over 7 years. The location of the Wind spacecraft is always within a few light-seconds distance from the Earth, varying at times from a nearby cislunar trajectory to the location of the first Langrangian point. The detector array of two large, unshielded gamma ray sensors on the opposite faces of the spacecraft, has a nearly omnidirectional celestial view that is essentially free of occultation by the Earth.

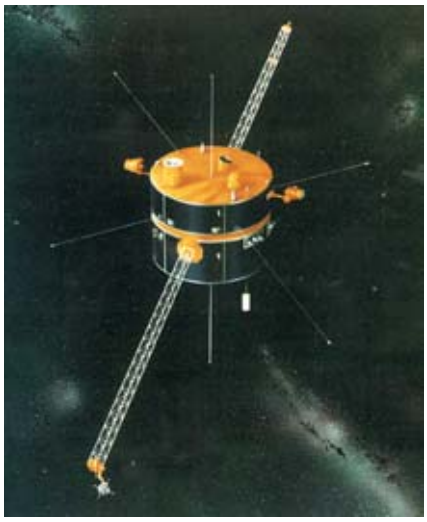

FIGURE 1. The GGS-Wind Spacecraft

Konus is a major element in the interplanetary GRB Network (IPN), and became its most sensitive near-Earth vertex after the Earth-orbiting Compton-GRO mission was terminated in June 2000. Many observations of GRB counterparts were enabled in 1999-2000 by the Ulysses-Konus-NEAR network, including one with the greatest redshift, at z = 4.5. Konus has also made basic contributions to studies of other transients, including soft gamma repeaters (SGRs), the giant SGR flare, and the bursting pulsar. Only the Compton-GRO BATSE provided a more extensive GRB catalog than Konus can, that has enabled a great variety of GRB studies. However, Konus has the advantage over orbiting instruments, such as BATSE, of a steady interplanetary background, unaffected by passages through the trapped radiation. The fact of this constant background may be of particular advantage in enabling some comparative studies of GRB event characteristics.

We are therefore preparing a catalog in CD form of Konus GRB histories and spectra in order to make this database available to the community. This compilation, for consistency, will consist of triggered events only. In addition to time histories, certain spectral information for each event, not presently exhibited on the Web site, will be included. NASA plans to continue GGS-Wind data recovery at least through 2002.

[1] http://gcn.gsfc.nasa.gov/gcn/konus_grbs.html

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