

IAA-00-IAA.9.1.05

**THE USE OF GAMMA-RAY BURSTS AS
TIME AND DIRECTION MARKERS IN SETI STRATEGIES**

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Brief beamed transmissions can be more intense than continuous omni-directional signals but require knowing when (and where) to look. For SETI, various phenomena including supernovae and novae have been proposed as “synchronizers” but no major SETI program has yet used any synchronizer. One reason for this is the poor properties of these synchronizers. However, in the last few years our knowledge of gamma-ray bursts (GRBs) has exploded and I propose that GRBs now appear to be the best synchronizers known. Their useful properties include short duration, large luminosities, high occurrence rate, isotropic sky distribution, and large distances. For targeted SETI, precise synchronizer positions and target distances are required to calculate the synchronizer/transmission time delay. Precise GRB positions are now starting to be obtained from GRB optical afterglows and Hipparcos distance measurements are available. In the next few years two satellites are scheduled for launch (Swift and FAME) which are directly relevant to the use of GRBs as synchronizers. Swift is expected to detect one GRB per day with the capability to localize optical emission to better than 1" and FAME should provide astrometry 20 times better than Hipparcos. Coincidentally, these spacecraft should be launched as the 1hT is being completed.