

On the search for the origin of short gamma-ray bursts

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Abstract.

Gamma-ray bursts appear to be the most powerful explosions in the universe. Two types exist – long ones, which last for tens or hundreds of seconds, and short ones that last a few milliseconds to a second. There is a sufficient research evidence to show that long bursts are the death throes of massive stars in distant, young, and vigorously star forming galaxies, while the origin of the short gamma-ray bursts has been shrouded in mystery until now. In December 2005, the first study that accurately pinpoints a short gamma-ray bursts to an old galaxy, implying that a population of old neutron stars are the sources of these explosion was released. The advent of NASA's Swift Satellite and the rapid follow up by the ground based telescopes will no doubt help to localize the short gamma-ray bursts which are fainter than the long bursts.