



Vrije
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Solvay Colloquium

“Gamma-Ray Bursts: The most energetic explosions known in the Universe”

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Abstract



Thanks to the discoveries in 1997 by the Italian-Dutch BeppoSAX satellite we now know that these explosive events take place in galaxies at cosmological distances. Since 2002 several more satellites, such as NASA's HETE-2 and SWIFT and ESA's INTEGRAL, have provided more information on these cosmic explosions. The most distant one so far, recorded in september 2008, has a redshift of 6.7, implying that it took place over 12 billion years ago, when the Universe was just over one billion years old. The optical flashes that accompany Gamma Ray Bursts are sometimes bright enough to be seen with the naked eye, even though the bursts may take place at a distance of 5 to 10 billion lightyears. This may make them over one million times brighter than a supernova explosion. The identification of over half a dozen Gamma Ray Bursts with a rare type of supernova explosions, associated with the death of short-lived very massive stars has led to the idea that GRBs may be associated with the birth events of stellar-mass black holes.

Tuesday 25 November 2008 at 16h00

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