

## OSSE Observations of Supernova 1998bu

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Supernova 1998bu was discovered on May 9.9 in NGC 3368 (M 96), and was already present on a pre-discovery plate on May 3.1. SN 1998bu shows spectral and light curve properties characteristic of a rather typical Type Ia supernova, reaching a peak visual magnitude of  $V \simeq 11.9$ . This is probably the nearest SN Ia in the Compton Observatory era, offering the best chance yet for CGRO to detect  $^{56}\text{Co}$  lines, as well as early  $^{56}\text{Ni}$  lines for some models. Very early observations turned out to be impractical; the first data were accumulated on days 18–21 post-explosion. NASA committed a great deal of CGRO time to later observations, including OSSE observations during the intervals 26–53, 60–110, 117–137, 144–158, and 165–186 days. Together these data provide a line sensitivity at 847 keV of roughly  $3 \cdot 10^{-5} \text{ cm}^{-2} \text{ s}^{-1}$  averaged over all these times. There is no convincing evidence for  $^{56}\text{Co}$  line emission in the OSSE data. The upper limits rule out  $\gamma$ -ray bright models, such as some delayed-detonations. Reaching the ultimate sensitivity of these data will require additional effort, as orbital conditions at the current CGRO altitude are responsible for unusually large and variable backgrounds.