Vela 5a and 5b Satellites
Gamma-Ray Burst Light Curves
Compton Gamma-Ray Observatory

BeppoSAX
Gamma-Ray Burst 970228

BeppoSAX X-ray images

Optical images

Feb 28, 1997

March 8, 1997
GRB FIREBALL MODEL

E ~ 10^{51}-10^{54} ergs
T = 0 s
R = 10^6 cm

T = 10^2 s
R ~ 3 \times 10^{12} cm

T = 3 \times 10^3 s
R ~ 10^{14} cm

T = 10^6 s
R ~ 3 \times 10^{16} cm

n = 1 \text{ cm}^{-3}

LOCAL MEDIUM

Afterglow

Burst

Pre-Burst

Shock Formation
Swift Gamma-Ray Burst Explorer

A Panchromatic Gamma Ray Burst MIDEX