Soft GRBs in the BATSE data

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The Burst And Transients Sources Experiment (BATSE) was most sensitive to photons above 20 keV and had very large statistics. To catch GRBs the trigger of the BATSE checked only the 50–300 keV range. However, a prompt emission of some GRBs seems to be softer. Moreover, so-called X-Ray Flashes (2–26 keV) were detected as possible prompt GRB emission events in the range typical for GRB X-ray counterparts. X-ray rich GRBs and/or X-ray Flashes can give a key to understanding the GRB radiation mechanism. Here we present the results of the search for X-ray Rich GRBs in the BATSE records with the trigger in the 20–50 keV and the 50–100 keV range. We found the emission in the BATSE range from X-Ray Flashes detected by some X-ray instruments. We present some conclusions on the shape of spectra of these events and on their relation to the GRB phenomenon.