

## P18 Search for the possible thermal emission from GRB100725B with Swift and Suzaku

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Gamma-ray spectra of GRB prompt emission are often described with the Band function consisting of smoothly connected two power-law functions at a break energy. The break energy is recognized as the typical energy of each GRB prompt emission. Since the break energy varies in time and distributes in the wide range – from keV-band to MeV-band, the wide band spectroscopy is necessary to investigate the prompt emission systematically. Additionally, it is thought that the prompt emission may include the thermal radiation from the explosion in the photosphere, however existence of the thermal component in the prompt emission have been largely uncertain yet. In this study, we carried out the timing analysis of Swift/XRT -Swift/BAT -SUZAKU/WAM joint spectra of GRB100725B. The data has enough statistics to determine spectrum parameters of the Band function. Most of the spectra was well described by Band function, but some of them deviate from typical Band function; their high energy spectral index ( $\beta$ ) is larger than -2. Therefore, we examined additional thermal component in order to search for the radiation component from the photosphere. In this paper, we showed the broad band XRT-BAT-WAM joint spectra analysis and derived physics of the prompt emission, and discuss possible joint observation and expected results with Swift/XRT-Swift/BAT and HXMT.

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