



Observations of Discrete Gamma Ray Pulses Associated with Lightning

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The short duration gamma-ray emissions from the Earth's atmosphere related to the lightning were discovered by the BATSE/CGRO instrument in 1994, and new features have been recently reported from the RHESSI measurements. These so-called terrestrial gamma-ray flashes are thought to be bremsstrahlung photons from energetic electron beams above the thunderstorms. The SONG experiment aboard low altitude polar orbiting CORONAS-F satellite, designed to detection of neutral particles from the Sun, provides 1-s measurements of hard X-rays/gamma rays in range of 30 keV to 200 MeV. We have identified cases when the RHESSI spacecraft, observing gamma-ray flashes at an altitude of about 600 km, and CORONAS-F passed through the same or conjugate regions in period April 2002 - December 2004. The simultaneous gamma-ray measurements will be reviewed and discussed. The observations of the energetic electrons from the MKL instrument on the CORONAS-F will be presented too.