

[구ID-11] The Burst Alert and Trigger Telescope for the Ultra Fast Flash Observatory Pathfinder

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The Ultra Fast Flash Observatory (UFFO) pathfinder is a payload system on-board the Russian satellite Lomonosov, scheduled to be launched in 2013. The main purpose of the UFFO pathfinder is to observe the early photons from Gamma-Ray Bursts. It consists of two instruments. The first instrument is the UFFO Burst Alert X-ray Trigger telescope (UBAT) for the fast-trigger and detection of GRB location, and the second is the Slewing Mirror Telescope (SMT) for the observation of the UV/optical afterglow from the GRB located by the UBAT. It will provide the first-ever systematic study of UV/optical emission far earlier than 1 sec after trigger. We will present the design, fabrication and the preliminary performance of the UBAT.

[구ID-12] The Slewing Mirror Telescope of the Ultra Fast Flash Observatory Pathfinder

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The Slewing Mirror Telescope (SMT) is a key telescope of Ultra-Fast Flash Observatory (UFFO) space project to explore the first sub-minute or sub-seconds early photons from the Gamma Ray Bursts (GRBs) afterglows. The first realization of UFFO is the 20kg UFFO-Pathfinder (UFFO-P) to be launched on board the Russian Lomonosov satellite in 2013 by the Soyuz-2 rocket. Once the UFFO Burst Alert & Trigger Telescope (UBAT) detects the GRBs, Slewing mirror (SM) will rotate to bring the GRB into the SMT's field of view instead of slewing the entire spacecraft. SMT can image the UV/Optical counterpart with about 4-arcsec accuracy. However it will provide a important understanding of the GRB mechanism by measuring the sub-minute optical photons from GRBs. SMT can respond to the trigger over 35° x 35° wide field of view within 1 sec by using Slewing Mirror Stage (SMS). SMT has 10-cm Ritchey-Chretien telescope and 256 x 256 pixilated Intensified Charge-Coupled Device (ICCD) on focal plane. In this paper, we discuss the overall design of UFFO-P SMT instrument and payloads development status.