Design and implementation of electronics and data acquisition system for Ultra-Fast Flash Observatory - DTU Orbit (28/12/2018)

Design and implementation of electronics and data acquisition system for Ultra-Fast Flash Observatory

The Ultra-Fast Flash Observatory (UFFO) Pathfinder for Gamma-Ray Bursts (GRBs) consists of two telescopes. The UFFO Burst Alert & Trigger Telescope (UBAT) handles the detection and localization of GRBs, and the Slewing Mirror Telescope (SMT) conducts the measurement of the UV/optical afterglow. UBAT is equipped with an X-ray detector, analog and digital signal readout electronics that detects X-rays from GRBs and determines the location. SMT is equipped with a stepping motor and the associated electronics to rotate the slewing mirror targeting the GRBs identified by UBAT. First the slewing mirror points to a GRB, then SMT obtains the optical image of the GRB using the intensified CCD and its readout electronics. The UFFO Data Acquisition system (UDAQ) is responsible for the overall function and operation of the observatory and the communication with the satellite main processor. In this paper we present the design and implementation of the electronics of UBAT and SMT as well as the architecture and implementation of UDAQ.

General information
State: Published
Organisations: National Space Institute, Astrophysics, Sungkyunkwan University, University of Paris-Sud - University of Paris XI, Instituto de Astrofisica de Andalucia, National Space Organization, National Taiwan University, Korea Institute of Industrial Technology, Korean Advanced Institute of Science and Technology (KAIST), University of California at Berkeley, National United University Taiwan, Lomonosov Moscow State University, Ewha Womans University, Yonsei University
Pages: 567-571
Publication date: 2013
Peer-reviewed: Yes

Publication information
Journal: E A S Publications Series
Volume: 61
ISSN (Print): 1633-4760
Ratings:
Scopus rating (2017): CiteScore 0.22 SJR 0.216 SNIP 0.118
Web of Science (2017): Indexed yes
Scopus rating (2016): CiteScore 0.25 SJR 0.224 SNIP 0.172
Scopus rating (2015): CiteScore 0.13 SJR 0.194 SNIP 0.125
Scopus rating (2014): CiteScore 0.18 SJR 0.205 SNIP 0.11
Scopus rating (2013): CiteScore 0.2 SJR 0.215 SNIP 0.111
ISI indexed (2013): ISI indexed no
Web of Science (2013): Indexed yes
Scopus rating (2012): CiteScore 0.26 SJR 0.241 SNIP 0.16
ISI indexed (2012): ISI indexed no
Scopus rating (2011): CiteScore 0.18 SJR 0.208 SNIP 0.09
ISI indexed (2011): ISI indexed no
Scopus rating (2010): SJR 0.219 SNIP 0.15
Scopus rating (2009): SJR 0.178 SNIP 0.068
Scopus rating (2008): SJR 0.204 SNIP 0.2
Scopus rating (2007): SJR 0.182 SNIP 0.092
Scopus rating (2006): SJR 0.183 SNIP 0.207
Scopus rating (2005): SJR 0.173 SNIP 0.11
Original language: English
Electronic versions:
GRB_EAS_S163347606100091Xa.pdf
DOIs:
10.1051/eas/1361091
Source: dtu
Source-ID: u::8145
Research output: Research - peer-review › Journal article – Annual report year: 2013