

[구ID-11] 감마선폭발 초기광 측정을 위한 Ultra Fast Flash Observatory남지우¹, 김용권², 남신우¹, 박재형³, 박용선⁴, 박일홍⁵, 이직¹, 이창환⁶, 임희진⁷,Bruce Grossan⁸, Eric Linder^{7,8}, George Smoot^{7,8}¹이화여자대학교 기초과학연구소, ²서울대학교 전기전자컴퓨터공학부, ³단국대학교 전자전기공학부, ⁴서울대학교 물리천문학부, ⁵이화여자대학교 물리학과, ⁶부산대학교 물리학과, ⁷이화여자대학교 초기우주과학기술연구소, ⁸University of California at Berkeley, BCCP

UFFO (Ultra Fast Flash Observatory) is an ultra-fast optical/UV telescope which can slew to targets within 1 msec using micromirrors. It is utilized for observations of prompt optical/UV photons from GRBs (Gamma Ray Bursts), permitting the first ever systematic study of optical/UV emission far earlier than 1 msec after trigger. We describe a concept and optical designs of the UFFO, and report results simulations and lab tests with a prototype telescope

[구ID-12] Trigger and readout system to detect the prompt photons from GRBs in Ultra Fast Flash Observatory임희진¹, E. V. Linder^{1,2}, G. F. Smoot^{1,2}, B. Grossan², 박일홍³, 남신우⁴, 남지우⁴, 이직⁴, 박재형⁵, 이창환⁶¹이화여자대학교 초기우주과학기술연구소,²Berkeley Center for Cosmological Physics(BCCP), ³이화여자대학교 물리학과,⁴이화여자대학교 기초과학연구소, ⁵단국대학교 전자전기공학부, ⁶부산대학교 물리학과

A new microsatellite instruments, the Ultra Fast Flash Observatory (UFFO) is proposed to study the prompt emission from gamma ray bursts (GRBs) and other transient space phenomenon from the optical to gamma-ray frequencies. The key idea of the UFFO is very fast pointing of the UV/optical telescope using the Micro-Electro-Mechanical Systems (MEMS) mirrors which can slew to targets within 1 msec. We present the trigger system to detect the fast transient events with the wide-field telescope and the readout system to manage the huge amount of data from the telescope detector within the limited processing time.