[PID-19] Integration and Performance Test of Dual layer SCD for the CREAMIII experiment.

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남극 상공에서 우주 고에너지를 측정하기위한 CREAM (Cosmic Ray Energetics And Mass)실험은 2004년 CREAM I, 2005년 CREAMII 두차례 모두 성공리에 행해졌다. 올해 2007년 CREAMIII를 띄우기 위한 준비가 진행중이다. 우리 SCD(Silicon Charge Detector)는 지난 CREAMII 실험과 동일한 형태이며 두개의 층으로 되어있다. 이미 지난 두번의 실험에서 검증된 시스템으로 두번째 비행에서 성공적으로 수거된 SCDII를 수리 보완 하였다. 지난 8월 WFF(Wallops Flight Facility)에서 이번 CREAMIII실험을 위한 SCDIII테스트가 행해졌다. 이 테스트 결과와 현재 CREAMIII 실험 준비 상황을 이번 포스터를 통해 보고하고자한다.

[PID-20] KAMTEL/MTEL Space Telescopes and the Electronics

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Atmospheric lightnings known as TLE(Transient Luminous Events) are extreme phenomena observed recently in the upper atmosphere. They are transient UV sources the characteristics of which have to be studied in detail for the measurement of ultra high-energy cosmic rays with the extensive air showers.

Two telescopes are in preparation for the measurement of TLEs in space - KAMTEL/MTEL. KAMTEL(Korea Astronaut Mems space TELescope) will be operated by Korean astronauts in ISS and MTEL (Mems Telescope Extreme Lightning) will be installed in the Russian science satellite to be launched 2008.

The telescopes consist of a UV detector, spectrophotometer, and IR camera. They provide three different ways to measure the same lightning events. Particularly the UV detector is designed with MEMS micromirror arrays and Multi-anode PMTs. Each component detector is operated with independent readout electronics systems with a common control and trigger electronics.

The production and tests of the telescope electronics have been completed. The structure and initial test results of the telescope electronics is presented along with the introduction of the detector system.