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Development of space plasma instruments onboard Taiwan sounding rocket

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Four space plasma instruments were proposed to National Space Organization (NSPO), Taiwan as the scientific payload of Sounding rocket experiment to observe temporal and vertical variations of these parameters in order to study plasma irregularities produced by instabilities in E and F regions and to understand coupling processes of particle, momentum and energy between the ionosphere and the thermosphere. The four instruments are Langmuir Probe, Ion Energy Analyzer (Faraday cup), Neutral Particle Analyzer, and magnetoresistive magnetometer. Two instruments, Sun Aspect Sensor and Flux-gate magnetometer, are contributed by Japan colleagues to tone up scientific merit. The development of these instruments are reported in this presentation.

Keywords: Sounding rocket, ionosphere, thermosphere, plasma irregularity