

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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FCUBE1, A LAB IN ORBIT FOR FEELING THE SPACE ENVIRONMENT AND FILLING THE
GAPS IN EDUCATION

Abstract

The Real Feel of Space is always a problem for the New Workforce when they are going to take part in Industry Projects. The gap between University, with Textbook and Software Simulations with no sense of the environment at which the system will work, and the Engineering Job in Space Industry, with many unknown factors that some of them are needed to be selected from a range based on previous experiences, is really a major problem, especially in NewSpace where the team is young and lacks the on job training. The same case happens in Ground Station, when Operation of a Satellite needs aware minds to know what happens in satellite with a short look on Telemetry Data. This paper is about a 1U Cubesat Platform with half unit capability to support Payloads to test in orbit and how the data could be used for Space Education. The story starts with a short introduction on the Cubesat Design to show what points have been considered for Education, from Satellite Design to Operation. This part will go over the Educational Program designed for this platform to teach Workforce for Development and Operation of the Satellite. It will be followed up with Mission Operation and the elements which can be controlled from Ground Station, overviewing the data from Satellite Sensors which may be used on Earth for the real feel of Space and Orbit Environment. Next section overviews the Launch, In Orbit Test and Early Operation of the satellite and how it was made ready for Education and reports of some Educational Passes are presented. The results of Education Effectiveness and how Instructors have engaged in this program is presented afterwards. The paper will be wrapped up with future applications of the platform in similar cases like Space Emerging Countries and the University or Research Institute which plan to prepare not Graduates, but Engineers ready for taking important positions in Industry.