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SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Calling Planet Earth - Space Outreach to the General Public (6)

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INTRODUCTION AND PLANNING OF "OPENSLSAT" FOR EDUCATION AND OUTREACH IN JAPAN

Abstract

Because university based satellites have a characteristic of the development in low cost and in a short term, they are expected to be applied in educational field, and many attempts have already tried. OpenSLsat (Open STEM Learning satellite) project is organized in 2015 in order to apply a cubesat to education and outreach, and it includes engineers who have experience to develop a satellite, professors in education department, and astronomers in astronomical observatories and in amateur groups. First, the background of organizing the group is introduced. STARS project was started in Kagawa University, and the first satellite "STARS" was launched in 2009, the second "STARS-II" was launched in 2014, and the third "STARS-C" is under development in Shizuoka University. Based on the development of STARS series satellites, the project planned and performed experience-based class for high, junior high, and elementary school students, and also public exhibition and demonstration. Second, the cooperation activity of the STARS project and Japanese public astronomical observatories are introduced. The STARS project organizes astronomical observatory network in Japan in order to observe STARS-II, which consists of mother and daughter satellites connected by tether, then two satellites were expected to be observed in the same time. Observatory staffs and project members had technical meaningful discussions and excited to take a picture of extremely small satellite. Finally, objectives of our OpenSLsat project are explained. The group is planning to develop a cubesat, which takes a photography for the purpose of applying to science education, for example, luminous cloud (appearing around 80km altitude on the pole in summer), mother-of-pearl cloud (appearing 20-30km altitude on the pole in winter). Because it is not considered that these clouds have a common cloud (generally altitude to around 10km), falling star into the earth (angle of field 1-10 degrees), and light tails of the comet (angle of field 10-30 degrees). Public offering for a target object and an approach technique is planned, and mission and observation operation are selected in a planned contest. This work was supported by JSPS KAKENHI Grant Number 26560091.