

45th STUDENT CONFERENCE (E2)
Educational Pico and Nano Satellites (4)

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CURRENT STATUS OF BMSTU-SAIL SPACE EXPERIMENT

Abstract

In this paper we discuss the current status of 1U CubeSat-based space experiment “BMSTU-Sail” which is being developed by BMSTU graduate, undergraduate students and professors with partial cooperation with Russian Federal space agency and Russian aerospace industry company RSC “Energia” in the field of space launch and administrative support.

Paper carefully describes educational and technological goals of this experiment which are the following: educate BMSTU students to develop real space hardware and software, pass ISS safety regulations since “BMSTU-Sail” CubeSat will be launched during EVA from ISS, deploy prototype of two-blade Heliogyro solar sail from cubesat, collect information about deploying process, take imagery from onboard visible and IR cameras, capture pictures from external cameras on ISS, transmit collected data to different ground stations. Paper describes the final structure of satellite, onboard software as well as the results of ground testing and simulations.

The development of this satellite started in 2009 and now we are close to launch as never before.