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TECHNICAL ASPECTS OF SMALL SATELLITES DEPLOYMENT FROM JAPANESE
EXPERIMENTAL MODULE OF ISS**Abstract**

In order to offer more frequent opportunities and moderate environments for small satellites launch in to space, new mission concept and capability of deploying small satellites using the J-SSOD (JEM-Small Satellite Orbital Deployer) from on-orbit Japanese Experimental Module (JEM) of International Space Station (ISS) were developed by JAXA. This capability was demonstrated by successful deployment of the five Cubesats (four 1U and one 2U satellites) from the J-SSOD on October 4th 2012. These Cubesats were launched by H-IIB rocket from Japanese Tanegashima Space Center with being softly stowed inside a bag, and transferred to ISS by HTV, H-IIB Transfer Vehicle. After installation onto JEM Remote Manipulator System (JEMRMS) by ISS crew and being positioned by both crew and ground controller commands to the JEMRMS, they were deployed to the planned orbit. On the basis of JAMSS's experience in supporting this 1st mission from the satellites development phase through the deployment from the J-SSOD on-orbit, this paper introduces technical aspects of this mission to which future satellites developers will be involved. The contents include; 1) capability of the J-SSOD system such as mass and volume, 2) environmental condition of the satellites during the mission, 3) parameters of deployment orbit from the J-SSOD and estimated orbiting lifetime, 4) key requirements to satellite development which are unique for the ISS safety and operation perspective, 5) guidelines for implementation and verification to the requirements, 6) lessons learned from previous missions, etc.