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DEPLOYMENT OF CUBESATS AND SMALL SATELLITES FROM THE INTERNATIONAL SPACE STATION

Abstract

NanoRacks, a leader in commercial services on the International Space Station (ISS), is the only company to offer commercial cubesat launches from the ISS. On November 2, 2012 the F-1 1U cubesat from FPT University in Vietnam was deployed from the ISS. NanoRacks has since deployed three additional cubesats using the JSSOD deployers.

NanoRacks is set to deploy 35 cubesats from the ISS in January 2014. These cubesats will be deployed using 6U deployers designed and built by NanoRacks. This will include a constellation of 28 earth observation satellites along with satellites from Europe, Asia and South America. NanoRacks has opportunities for cubesat deployment up to 6U in size and larger satellites. NanoRacks has manifested a half meter cube satellite for deployment from ISS.

The ISS offers several unique qualities for cubesat deployment. First, there is a regular supply chain of cargo flights to the ISS. This gives cubesat builders greater flexibility in delivering their payloads to space. This deployment schedule avoids many of the problems of rideshare opportunities. If a date is missed, future flight opportunities exist every few months. Second, the ISS offers the ability to deploy cubesats in sequence to enhance the ability to deploy cubesat constellations. Finally, the ISS offers a unique branding opportunity with spectacular pictures of cubesat deployment.

This paper will review past cubesat deployment events as well as future opportunities. It will also include a discussion of the technical and business considerations for deployment from the ISS.