

66th International Astronautical Congress 2015

EARTH OBSERVATION SYMPOSIUM (B1)
Interactive Presentations (IP)

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REAL-TIME EARTH OBSERVATION SYSTEM BASED ON MICRO-NANO NETWORKS

Abstract

This paper presents a real-time earth observation system based on micro-nano networks ,to implement the global approximate continuous observation of high temporal resolution.This system is mainly composed of 108 small visil/multispectral video satellite. These satellite is uniformly distributed in six sun synchronous orbits, through the inter-satellite link to realize instruction scheduling of the whole constellation system. And each satellite has attitude maneuver mobility,45 pitch/side. Each small satellites using integrated design of platform and load, body mounted of the solar cell array. The star is not greater than 60kg weight , which has the inter-satellites remote control transmit function. Single products on the satellite use the standardizedmodular design technology, which can realize mass rapid integrationquick test and quick launch.This system will meet a variety of model imaging observation , including HD video staring imaging, wide observation by Strip-map or Progressive scan, Sharing observations to the ground fixed area or specified targets, continuous observation to the specifically ground track. Through the modeling and simulation of this system, it indicate that the system could be realized frequency, dynamic continuous observation to the global designated area in LEO. And it is a powerful way to get information quickly and monitor continuous for multiple sudden disasters.