

Challenge of Nano Satellite for Remote Sensing Application

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Since the role of earth remote sensing is more significant to observe natural disasters, such as earthquakes, volcano eruptions and floods, which threaten us much more in this century, requirement on the frequency of observation is increasing. Although the earth remote sensing satellite is increasing, the revisit frequency is not high to support prompt observation of the target regions in a few hours. Constellation of nano-satellites is a solution to solve the above problems with inexpensive cost.

The limitation of nano-satellite lies in the amount of data downlink, temperature stability of mission instruments and pointing accuracy and stability of satellites. The Moderate (“Hodoyoshi”) Reliability project aims to establish the technology that nano satellites overcome these limitations to work in operational uses.

Optical remote sensing from space is the one of the promising market, in especially high resolution. The mission of the first satellite is the multispectral sensor with relatively high spatial resolution of about five meters. A focal plane is consists of four charge coupling devices of a large format, providing wide swath observation. Four spectral bands will be selected in consideration for user mission. Coupling with accurate geometric data processing, remote sensing by nano-satellite is prospering in the next decade.