Possibility of Microsatellite

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As a remote-sensing tool, 50-kg class micro-satellite has following great potentials compared to existing big satellite, namely, 1) Low cost fabrication compared to middle- or large sized satellite, namely, few M EUR including bus and mission payloads. The launch cost will be 1+ M EUR as piggyback, 2) quick fabrication: about one year for flight model, enabling application of the latest technologies, 3) Constellation flight, enabling frequent monitoring from low altitude, 4) On-demand operation, taking detailed information at point of focus, according to requirement of users. Here we introduce the latest technologies for remote sensing, which will be launched onboard micro-satellites developed in universities, including high functional 5-m resolution telescopic camera, which can select any colors from 400-700 nm or 650-1050 nm at 1 nm step, and a bolometer array camera. We would suggest applications of micro-satellite and its constellation in order to monitor every subject which has dynamical variations, such as, cloud structure, hydrology including CO2 flow, lightning, vegetation, agriculture, forest fire and smoke detection, dust, atmospheric and oceanic pollution, biology in ocean, glacier, and natural disasters. We should consider the best mix of micro and big satellites as a strategy of all Japan community.

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