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# Microsatellite as a new remote-sensing tool in Asia

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50-kg class micro-satellite has following great advantages compared to 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 detail 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. Here we show a sample application to thunderstorm monitoring which may contribute to the prediction of torrential rainfall and flood, combining a ground-based lightning detection network in SE Asia operated by Asian consortium on micro-satellite, which will involve experts in various research fields, especially with them in SE Asian countries.

Keywords: micro-satellite, Asia, remote-sensing