

## Concept of super multipoint observation with micro-satellites

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Increasing the number of measuring point is essentially important for the capturing and understanding of magnetospheric and ionospheric phenomena. However, due to high cost of spacecraft, it is not easy to launch more than several tens of large or even small satellites with weight of few 100 kg or more. Microsatellite with a weight of 50-100 kg has various merits compared to larger satellite, that is, 1) low cost fabrication compared to middle or large sized satellite, namely, few 100M JPY including BUS and mission payloads. The launch cost will be about 200 M JPY as piggyback, 2) quick fabrication: about one or two years for flight model would be sufficient, enabling application of the latest technologies, 3) On-demand operation, taking detail information at a point of interest, and 4) the low cost and quick fabrication make us possible to launch not a small number of satellites, which is called as constellation flight. Here we introduce the idea of utilization of micro-satellites which are expected to be launched many times for various purposes in the near future. If we can install a light and small plasma measuring package, consisting of magnetometer, wave receiver, plasma particle counter, etc, at every micro-satellite that will be used for other main purpose, and download these data as a part of house keeping data, we could obtain a super multipoint observation system with tens of, even hundred of, observation platforms. This completely new concept will lead to breakthrough in magnetospheric and ionospheric sciences.