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GOSAT-2:the outline of the mission and satellite system

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Greenhouse gases Observing SATellite (GOSAT) was launched on January 23, 2009, to monitor the global column concentration of carbon dioxide (CO_2) and methane (CH4) from space. Over five years operational periods, the useful scientific data sets and interesting articles for carbon source/sink evaluation were produced and published, and on 23rd of January of this year the nominal operation period completed and moved to addional operation phase. Currently, the importance of space-based carbon observation has been approved and desired the continuous observation in toward. OCO-2, TanSat, MicroCarb and CarbonSat will be planned to launch in up-coming years and follow to observe the global carbon distribution. Through the GOSAT operation, we learned a lot of things on the instrument, software, processing algorithm and operation; what should be improved in the following mission. To elucidate the carbon cycle more precisely, our experiences regarding observation performances as well as hardware design were summarized and reflected on the mission design of GOSAT-2 and the mission requirements on GOSAT-2 which is for a good understanding of CO_2 and CH4 sources and sinks and the underlying carbon cycle was defined.
Based on the mission requirements and experiences regarding observation performances and hardware design, the feasibility studies such as sampling strategy, band expansion, mapping capability were carried out to meet the mission requirements.
And the hardware system requirements were defined and the design was started.
In this presentation, the mission requirements and current status and the details of the system design of GOSAT-2 will be presented.