Nearly 10 Years of RADARSAT-2 Flight Operations

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RADARSAT-2 has now been operational for nearly 10 years and continues to perform beyond its original design specifications. Availability and performance are maintained above requirements thanks to the quality of the original design, careful system monitoring and continuous improvement.

This presentation provides a status update on RADARSAT-2 Space, Ground, and Operational segments. We will summarize actual performance, highlight the key changes and enhancements to the mission, and describe the areas where we have focussed particularly attention in the maintenance of long term health and performance.

A variety of mission performance measures are carefully trended, including availability, downlink and Telemetry Tracking and Commanding capacity, ground track control, attitude control, power consumption and image quality. The systems and procedures are continuously adjusted to maintain or improve performance. Most of these activities are done to expand the capabilities of the mission to meet user demand and to ensure long term performances are met for years to come.

In order to maintain the current level of performance, mission operations has and is continuing to perform significant upgrades. Some examples that will be covered in this presentation include upgrading or replacing Ground System Hardware, updating Orbit Determination to function with limited spacecraft telemetry, increasing Downlink capacity, integrating additional Telemetry Tracking and Commanding Systems, carefully examining Spacecraft attitude control, ensuring Thermal system stability and is being ensured and the development of a mitigation strategy to resolve known system degradation or failures.

RADARSAT-2 Image Quality will be covered in a separate paper (RADARSAT-2 Image Quality and Calibration Update, by D. Williams)