

IGARSS 2010
RADARSAT CONSTELLATION, MOVING TOWARD IMPLEMENTATION
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The Canadian Space Agency initiated the development of a three-satellite SAR mission, known as the RADARSAT Constellation Mission (RCM), in 2005. The main objective of the mission is to assure C-band data continuity in the next decade, while allowing a greater use of data for operational applications by providing more persistent observation over Canada and better system reliability.

A Phase B contract was awarded in November 2008 for a period of 16 months. The Space and Ground Segment Requirements reviews were held at the end of February 2009. The spacecraft and Ground Segment concepts were adopted and design decisions have been taken to allow preliminary design to proceed. A Payload and Bus Preliminary Design reviews were held during fall 2009. A Mission Preliminary Design review is planned for January 2010.

As the CSA is getting prepared to move to the Critical design phase (Phase C), several issues must be resolved and important decisions must be taken to allow the progress of the program toward full implementation.

Those issues range from security requirements to final selection of the launcher. The security requirements will have direct impact on the design of the spacecraft and of the ground segment. The selection of the launcher must be done early in Phase C to allow the completion of a spacecraft design compatible with fairing environment. Decisions must be taken also on the ground segment to allow the completion of the operational scenario for a Ground Segment PDR that will take place nine months after the start of Phase C.

The Phase C is expected to last 22 months, followed by the manufacturing Phase D which is expected to last 42 months. The first spacecraft will be built and tested as a proto-flight and launched in 2014. The following two spacecrafts will be built and tested in parallel and launched in 2015.

The presentation will focus on the implementation of the mission.

Bibliography:

[1] G. Seguin, *A Canadian constellation of C-band Satellite (IAC 2005)*

[2] G. Seguin, S. Sachdev, *The RADARSAT Constellation, an evolution of the RADARSAT Program (IAC 2009)*