NovaSAR-1 – FIRST YEAR OF OPERATION, AND NEXT STEPS

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Abstract:

The NovaSAR-1 small radar imaging satellite was launched in September 2018, and includes several innovative features. Imaging at night time or through cloud cover from space using radar has traditionally required large and expensive spacecraft. Various technological advances have made it possible in recent years to reduce both the size and cost of such missions, and NovaSAR-1 is a first attempt to create a radar spacecraft that supports economically sustainable radar imaging. Key factors in making this possible have been to leverage the latest high-efficiency semiconductors to reduce the needed on-board power, the choice of S-band as the transmission band, and the approach to defining modes of operation to serve a range of applications. Coupled with this, NovaSAR-1 was the first to include AIS within the radar spacecraft design, and employs a novel funding model allowing geographically disparate users to each act as owner-operator sharing the mission costs. This paper describes the novel aspects of the NovaSAR system and the results these have provided during the first year of operations.

NovaSAR is part of a series of EO satellites launched by SSTL, and the presentation will also briefly describe SSTL's operational EO spacecraft and others being planned.

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