

Feasibility Study of Synthetic Aperture Radar

- Adaptability of the Payload to KOMPSAT Platform

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Synthetic Aperture Radar (SAR) has been used for mapping the surface geomorphology of cloudy planets like Venus as well as the Earth. The cloud-free Mars is also going to be scanned by SAR in order to detect buried water channels and other features under the very shallow subsurface of the ground. According to the Mid and Long-term National Space Development Plan of Korea, SAR satellites, in addition to the EO(Electro-Optical) satellites, are supposed to be developed in the frame of the KOMPSAT (Korean Multi-Purpose Satellite) program. Feasibility of utilizing a SAR payload on KOMPSAT platform has been studied by KARI in collaboration with Astrium U.K. The purpose of the SAR program is Scientific and Civil applications on the Earth. The study showed that KOMPSAT-2 platform can accommodate a small SAR like Astrium's MicroSAR. In this paper, system aspects of the satellite design are presented, such as mission scenario, operation concept, and capabilities. The spacecraft design is also discussed and conclusion is followed.