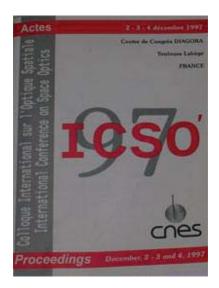
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## Requirements, architectures and technologies for Skymed-COSMO optical payload

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## REQUIREMENTS, ARCHITECTURES AND TECHNOLOGIES FOR SKYMED-COSMO OPTICAL PAYLOAD

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Abstract

This paper presents the results of the first part of the study carried out for ASI by Alenia Aerospazio and Officine Galileo, regarding the requirements, concepts, architectures and technologies for Skymed-COSMO project.

The Earth observation market analysis demonstrates the need of high-spatial resolution and an access time lower than 24-hours in order to expand the applications and the numbers of endusers.

The optical constellation of the Skymed-Cosmo project is based on three satellite in a sunsynchronous orbit at about 500-Km of altitude with a revisit time of 24-hours. The payload of the optical constellation is based on three instruments: a high-spatial resolution camera, an IR camera and a visible imaging spectrometer. This set of instruments has been chosen in order to satisfy a largest number of applications related to the Mediterranean basin.

Several optical payload concepts and architectures and related technologies have been considered and analysed. The selected "suite" of instruments and a preliminary pre-design are given. Furthermore, the paper describes the characteristics of the enabling technologies for the sensor to permit the accommodation on a small-satellite class.

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