International Conference on Space Optics—ICSO 1997

Toulouse, France

2–4 December 1997

Edited by George Otrio

Requirements, architectures and technologies for Skymed-COSMO optical payload

A. Mariani, D. Oricchio, G. Preti

International Conference on Space Optics — ICSO 1997, edited by Georges Otrio, Proc. of SPIE Vol. 10570, 105700A · © 1997 ESA and CNES · CCC code: 0277-786X/18/$18 · doi: 10.1117/12.2326440

REQUIREMENTS, ARCHITECTURES AND TECHNOLOGIES FOR SKYMED-COSMO OPTICAL PAYLOAD

Authors: A.Mariani*; D.Oricchio**; G.Preti*

* Alenia Difesa-UnitÁ Officine Galileo
via A.Einstein, 35-50013-Campi Bisenzio-Firenze, Italy
Fax 39 55 8950605/603

** Alenia Aerospazio
via Saccomuro, 24-00131-Rome, Italy;
Fax 39 6 41512102
e-mail d.oricchio@roma.alespazio.it

topic 1: Earth Observation and Atmosphere Monitoring
plenary session; language: English

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 end-users.

The optical constellation of the Skymed-Cosmo project is based on three satellite in a sun-synchronous 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.
D.O.: file: ICSO-97.doc; 29/04/97