

Status of ESA activities related to a MW sounder from GEO orbit

CGMS is informed about ESA's activities regarding microwave sounders from geostationary orbit.

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1.- INTRODUCTION

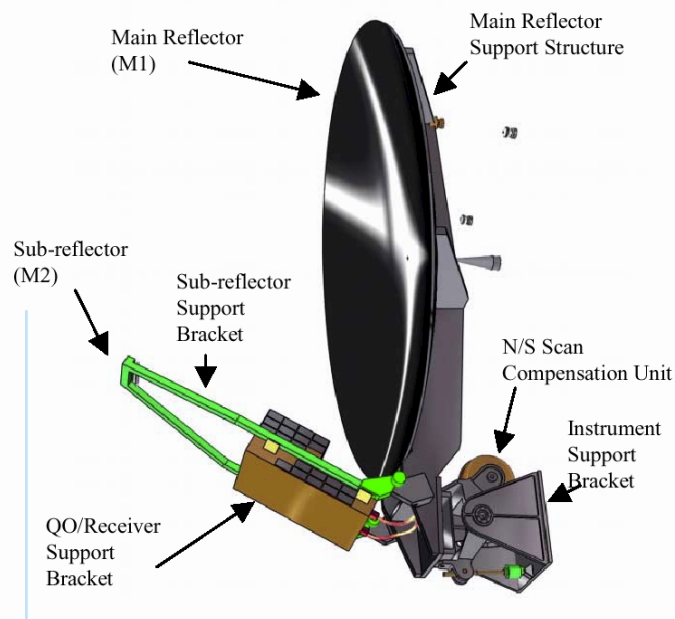
Based on the EUMETSAT user consultation process for the Meteosat Third Generation, ESA has developed mission and instrument concepts focussed on the most important nowcasting parameters. These are precipitation, cloud physical parameters, atmospheric motion vectors and temperature- and humidity sounding.

2.- ACTIVITIES

To optimise coverage and repeat cycle geostationary and elliptical medium earth orbits are being investigated.

The activities have led to microwave (millimetre and sub-millimetre wavelength) instruments. The analysed frequencies range from 54 to 875 GHz, out of which the bands around 183 and 383 GHz have the highest priority followed by 118, 54, 425 and 625 GHz.

Studies are ongoing on the retrieval of precipitation using satellite data in these frequency ranges. Radiative transfer models are being established for these frequencies.



3.- STATUS

The main drivers for the GEO concepts are the large main reflector of approximately 3.5 m diameter, the scan mechanism and the combination of radiometric accuracy, geographical coverage and repeat cycle. As a consequence ESA has started a comprehensive technology development action in the Technology Research Programme (TRP).