

COMS On-Station Earth Acquisition Performance Analysis

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COMS (Communication Ocean Meteorological Satellite) is being developed by KARI (Korea Aerospace Research Institute) and ASTRIUM to operate two imaging payloads, the GOCI (Geostationary Ocean Color Imager) and the MI (Meteorological Imager), which can collect ocean and meteorological information not only around Korean peninsular but up to the full Earth continuously. To obtain the COMS Normal mode for the full performance payloads operation, the on-station Earth acquisition requires to be achieved first since no apriori attitude information is available during LEOP (Launch and Early Operations Phase) or ESR (Emergency Sun Reacquisition) after the fault detection during On-station mode. In this paper, the procedures of the on-station Earth acquisition are presented. Then, the performance of the COMS on-station Earth acquisition is analyzed through the simulations using various spacecraft hardware and equipment configurations.