

Comparison on the Flight Temperature of Solar Panel after Deployment with Numerical Prediction

Bum-Seok Hyun, Hui-Hyung Kim, Jang-Joon Lee, and Joon-Min Choi
Satellite Thermal/Propulsion Department, KARI

During launch of a satellite, most critical path to successful launch is deployment of solar panel because it is the main power source of satellite during whole mission life time. Deployment of solar panel can be detected by telemetry data of deployment device. But, it can also be verified by the investigation of the flight temperature of solar panel. Numerical prediction shows the range of temperature of solar panel when the deployment is successful and operate normally. With known position of satellite, temperature of solar panel can be deduced from prediction data approximately. In this study, with flight temperature data of solar panel after deployment, numerical prediction data are compared and the deployment verification of the panel are performed.