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Ground Experiments for Satellite Solar Array Deployment

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Key Words : Strain Energy Hinge, Solar Array Deployment, Ground Experiment.

Abstract : This research is concerned with ground experiments for satellite solar array deployment. The dynamic characteristics of the strain energy hinge is very important since it affects the shape and the speed of the solar array deployment. the rapid deployment results in overshoot and undesirable residual vibrations. The experimental results are in good agreement with theoretical results.

기준 가속도계를 이용한 보의 면내 진동인텐시티 측정

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Measurements of the In-Plane Vibration Intensity of a Beam Using an Reference Accelerometer

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Key Words : In-Plane Vibration Intensity, Reference Accelerometer

Abstract : In this paper, an experimental technique using a reference accelerometer has been developed to measure the in-plane vibration intensity of a beam. It has the advantages of shortening measurement time and reducing accelerometer phase error comparing with the cross spectral intensity measurement technique using an accelerometer array. The distribution of the in-plane vibration intensity over the beam has been measured. The result has been compared with the input power measured at an exciting point. It showed that the present experimental method can be effectively used to measure the structural in-plane vibration intensity.