

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)  
Upper Stages, Space Transfer, Entry and Landing Systems (3)

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THE RESEARCH OF MULTI-SATELLITE DEPLOYING METHOD FOR UPPER STAGE

**Abstract**

This paper presents the orbit design method for deploying 4 MEO satellites in one orbit. Firstly, the multi-satellite deploying strategy with the theory of impulse maneuver is studied, and then the optimal energy saving scheme is achieved. During the detail design, the traditional design method in launch coordinate system or geocentric equatorial coordinate system is very complicated. Therefore, the orbit coordinate system is defined, and the kinetics equations in it are established as well. The result shows that the orbit coordinate system can greatly simplify the orbit design, and has significant reference to later spacecraft research.