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THE METHOD FOR CALCULATE ADDED MASS OF PARACHUTE

**Abstract**

The parachute is widely used in spacecraft deceleration system. It is mainly constituted by fabric and can be packed into a small volume. When spacecraft entry the atmosphere of earth or other planet, the parachute system is ejected and go through a series of motion including deployment, inflation and opening. Because the parachute is light, flexible and blunt, its added mass has considerable effect on the opening shock, canopy loading and the motion of spacecraft-parachute system. This paper give a concrete description of the added mass of parachute, including introduction of concept, application in spacecraft-parachute system motion equation, numerical calculation and engineering calculation method. It is useful to determine the added mass and its effect for parachute engineer.