

Small Satellites (13)

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THE ANALYSIS ON SYSTEMATIC DESIGN METHODS USED FOR SMALL INTEGRATED AEROSPACE VEHICLE

Abstract

The integrated aerospace vehicle is mainly designed for providing information on natural disasters rapidly so as to support decision-making of rescuing. Due to limited payload capabilities in small launch vehicles, it is necessary to design the integrated aerospace vehicle which carries small satellites within limited space, weight and power consumption, etc. The technique named Modified Launch Mode (MLM) could be applied to maximize the system performance, which could also reduce the system cost by taking advantage of advanced and efficient control methods to enhance the system capabilities. By using integrated avionics to control the small satellite and launch vehicle could omit the duplication of some hardware and reduce operations costs. It is substantial to utilize low-cost launch vehicles that would drop launch costs while increasing responsiveness at the same time. The major benefit of integrated system design is to gain a multifunctional spacecraft at orbit insertion, which could perform multiple missions.