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RESEARCH ON THE INTEGRATION OF SMALL LAUNCH VEHICLE AND SMALL SATELLITE
PLATFORM

Abstract

Operational Response, low cost and high load ratio are tendency of small launch vehicle and small satellite platform. In order to develop a lower cost and higher load ratio launch vehicle, a method, integration of small launch vehicle and small satellite platform, is proposed, in which the similar function systems between small launch vehicle and small satellite, such as the power system, structure system, bipropellant propulsion system and flight control system etc, are integrated. This method has the disadvantage of losing few flexibility, but the advantages, such as increasing payload and propellant, reducing launch cost, prolonging lifetime are more significant, which offers a valuable technical approach to the design of Operational Responsive Space Vehicle and is significant to the development of Operational Responsive Space. Basing on this method, it is possible to develop an integrated multitask craft having standard and modular interface for various kinds of payloads, Consequently, batch production and COTS purchase are expectable.