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A REVIEW OF THE NEW GENERATION OF SMALL LAUNCH VEHICLE DEVELOPED BY CALT

Abstract

In recent years, there have been sustained demands for small satellites, both within the telecommunication sector and for scientific missions and those related to Earth observation. Cost-effective operations, affordable and reliable space access are important parts of the space transportation system of small satellites. According to the market-oriented needs, new generation of small launch vehicles indicate the wide range of potential application for small satellites. China Academy of Launch Vehicle Technology (CALT) small launch vehicle program efforts are underway to design, test, and develop technologies for small launch systems that mainly satisfy commercial needs at acceptable recurring costs. Significant progress has been made in undertaking the technical challenges of small launch systems and the accompanying management and operational approaches for achieving a low-cost program. This paper reviews the current status of the small launch vehicle program undertaken by CALT, including Naga-L (Liquid Based)Naga-S(Solid based). It addresses the specific technologies and business issues being applied and proposed related to these two types of small launch vehicles. This paper also contains the technical and operability of CALT small launch vehicles including carrying capacitytrajectory designcost analysis and estimation etc to provide references for the small satellites market