

IAF MATERIALS AND STRUCTURES SYMPOSIUM (C2)  
Space Structures - Dynamics and Microdynamics (3)

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CAS Space (Guangzhou Zhongke Aerospace Exploration Technology Co., Ltd.), China,  
wangyingcheng@caspace.com.cnA VTVL PROTOTYPE FOR FLIGHT CONTROL ALGORITHM VERIFICATION AND STEM  
EDUCATION**Abstract**

At present, the vertical recovery technology of launch vehicles is a development trend in the world's aerospace industry. The key technology lies in multiples of area, engines, structure and high-precision control. In this project, combined with STEM education, a prototype is introduced to verify the rationality of the flight control algorithm of vertical recovery. This prototype has a 70kg take-off weight with a maximum thrust of 845N jet engine as the power plant, equipped with vector control capability and reusable structure system. The prototype can be used for verification of the flight control algorithm and the simplified version is developed for kids education.