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Author: Mrs. aizhen ming
CAS Space, China

PR-1 FOR SCIENCE EXPLORATION DEVELOPED BY CHINESE ACADEMY OF SCIENCES

Abstract

PR-1 rocket is the first four-stage solid rocket jointly developed by the Institute of Mechanics of the Chinese Academy of Sciences and Beijing Zhongke Aerospace Exploration Technology Co., Ltd. The rocket is designed for small- and medium-sized spacecraft launch missions to sun synchronous orbit and low Earth orbit, including single-satellite, multi-satellite, rapid deployment and replacement of constellation tasks. The four-stage solid tandem rocket PR-1 stands 29.668 m tall with a core diameter of 2.65 m, a take-off thrust of 200 t, and can deliver payload of up to 1500 kg into 500 km solar synchronous orbit (SSO). The advanced, innovative and economical new solid rocket is of great significance in promoting the reform and innovation of China's launch vehicle technology and development mode, as well as space science progress. The first PR-1 rocket lifted off from the Jiuquan Satellite Launch Center at Beijing time 12:12 on July 27, 2022, putting 6 satellites into their preset orbits successfully.