

||||| 特集：小型衛星の開発動向と微小重力実験 |||||  
(原著論文)

## 小型衛星のためのハイブリッドロケットの打ち上げ機の開発

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### **Development study of Hybrid Rocket Booster for Ballistic Launch of Small Satellite**

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#### **Abstract**

For the use of ballistic launches of a small satellite, the development study of a high thrust hybrid rocket motor has been made. To enhance the regression rate of the solid fuel and augment the thrust, the authors employed a new fuel configuration. This new configuration allows mixing and combustion to occur around the stagnation points on solid fuel surfaces. The static firing tests using a LOX/PMMA hybrid motor with a LOX cooling system have proved sufficiently prompt ignition, high thrust level, and stable combustion. Based on the obtained data, a flight performance of a small hybrid rocket for a ballistic test launch was estimated.