

Poster Session (P)

Poster Lunch (1)

Author: Mr. Zi-han Jiao

China Academy of Launch Vehicle Technology (CALT), China, zihan325@126.com

## AERODYNAMIC CONFIGURATION DESIGN AND NUMERICAL SIMULATION OF A NEW MARS REENTRY HYPERSONIC VEHICLE

### **Abstract**

A new technical scheme of the high lift-to-drag ratio Mars reentry hypersonic vehicle was proposed. This technical scheme could improve reentry flight speed by gravity and negative lift. A plane-symmetry hypersonic vehicle was designed and simulated using high precision numerical algorithm, and the aerodynamic characteristics differences in the earth's atmosphere and mars' atmosphere was obtained, which would provide a reference for the design of the new Mars reentry hypersonic vehicle.