

MATERIALS AND STRUCTURES SYMPOSIUM (C2)

Poster Session (P)

Author: Dr. Yi Li

China Academy of Launch Vehicle Technology(CALT), China, yilimm@gmail.com

Mr. Jianhui Wu

China Academy of Launch Vehicle Technology(CALT), China, wujh2@calt.casc

Mr. Yu Cai

China Academy of Launch Vehicle Technology(CALT), China, caiy@calt.casc

THE CONTROL-ORIENTED AERODYNAMIC DESIGN AND ANALYSIS FOR HYPERSONIC  
WAVERIDER

**Abstract**

The waverider is a kind of aerodynamic shape for hypersonic vehicle. As a result of high lift-drag-ratation and maneuvering capacity, hypersonic vehicle has the haracteristics of strong coupling, nonlinear and large envelope flight. Waverider configuration can be optimized with flight states by using aerodynamic performance analysis. The numerical results show that this configuration with static stability has a satisfying value of lift-drag-ratio.