## Accepted Manuscript

Numerical simulation of wavy surface effect on the stability of a hypersonic boundary layer

Yunlong Zhou, Wei Liu, Zhenxia Chai, Xiaoliang Yang

PII: S0094-5765(17)31011-1

DOI: 10.1016/j.actaastro.2017.08.018

Reference: AA 6437

To appear in: Acta Astronautica

Received Date: 21 July 2017

Revised Date: 10 August 2017

Accepted Date: 17 August 2017

Please cite this article as: Y. Zhou, W. Liu, Z. Chai, X. Yang, Numerical simulation of wavy surface effect on the stability of a hypersonic boundary layer, *Acta Astronautica* (2017), doi: 10.1016/j.actaastro.2017.08.018.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



## Highlights

- 1. High-order scheme is used to simulate hypersonic wavy-wall boundary layer stability.
- 2. The accuracy and efficiency of two unsteady time integration schemes are compared.
- 3. The wavy wall can suppress the high-frequency second-mode instability.
- 4. The wavy-wall geometric parameters significantly affect the boundary layer stability.

Download English Version:

## https://daneshyari.com/en/article/5472138

Download Persian Version:

https://daneshyari.com/article/5472138

Daneshyari.com