

66th International Astronautical Congress 2015

HUMAN SPACEFLIGHT SYMPOSIUM (B3)
Interactive Presentations (IP)

Author: Ms. Ma Hong

State Key Laboratory of Astronautic Dynamics (ADL), affiliated to Xi'an Satellite Control Center, China,
qingtingsay@163.com

Dr. Hou Liqiang

State Key Laboratory of Astronautic Dynamics, Xi'an Satellite Control Center; Xi'an Jiaotong University,
China, houliqiang2008@139.com

THE GNC SYSTEM IDENTIFICATION OF SKIP ENTRY REENTRY TARGET BASED ON
INCOMPLETE INFORMATION

Abstract

The GNC system identification of entry target is very important in improving the measure and monitor for target and impacting the point prediction. All the incomplete information are considered, such as aerodynamic parameter estimation error, ablative performance, guidance law is unknown, wind effects on the trajectory of the drift, measure error and so on. Based on the wavelet analysis theory and predictor-corrector reentry guidance algorithm, the GNC system of target is identified, and the problem of guidance law is unknown in target tracking is implemented. Experiments on the skip entry reentry target tracking problem with uncertainties is carried out, and the results show that this identification strategy is validity and make a certain guidance and reference for practice application.