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固体火箭冲压发动机转级技术(PDF)

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Title: Transition Technology in Integrated Rocket Ramjet Engine

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关键词: 进气道入口堵盖;进气道出口堵盖;燃气喷嘴堵盖;时序控制

Keywords: inlet in-take cover; inlet out-take cover; gas generation injecting nozzle cover;

time sequence control

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摘要: 转级装置是固体火箭冲压发动机的重要组成部分,关系着固冲发动机能否实现从助推向

冲压的成功转换。文中针对整体式固体火箭冲压发动机转级技术进行了探讨,明确了转级装置的功能和设计要求,重点介绍了多种结构简单、实用性强的进气道入口、出口和燃气喷嘴堵盖,并对各方案特点作了说明,还提出了几种适用于转级单项和系统验证的试

验方法以及转级时序控制的方法,可为国内转级技术研究提供依据。

Abstract: The transition equipment is an important constituent part of integrated rocket

ramjet engine, it determines successful transition of the rocket ramjet engine from boosting to mixing combustion. The transition technology of monolithic solid

rocket ramjet engine was studied in this paper. The function and design

requirements of the transition equipment were definite. Several types of inlet intake cover or out-take covers and gas generation injecting nozzle covers were introduced emphatically. In addition, the characteristic of every scheme was illustrated. Several methods of simple or system transition confirmatory test and

control method of transition time sequence were presented. All these will offer

the basis for the research of transition technology.

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