航空学报
ACTA AERONAUTICA ET ASTRONAUTICA SINICA
ISSN 1000-6893
CN 11-1929/V

航空学报 » 1989, Vol. 10 » Issue (8) :447-449 DOI:

低压下V形火焰稳定器回流区流动特性研究

李概奇, 王家骅

南京航空学院

EXPERIMENTAL INVESTIGATION ON FLOW CHARACTERISTICS OF THE RECIRCULATION ZONE BEHIND VEE-GUTTER FLAMEHOLDER

Li Gaiqi, Wang Jiahua

Nanjing Aeronautical Institute

摘要 | 参考文献 | 相关文章

Download: PDF (169KB) HTML 0KB Export: BibTeX or EndNote (RIS) Supporting Info

摘要

符号表 x、y、z:坐标方向、大小（mm） y_0:零速度线纵向坐标 W:稳定器槽宽（mm） λ:微尺度（mm） P:压强（MPa） ρ:密度（kg/m^3） V_0:来流速度（m/s） Re:雷诺数 :x向平均速度（m/s） u、v:x、y向脉动速度（m/s）uv、u²:速度相关量(m²/s²)m:回流量(单位横向宽度)(kg/s)ψ：流函数,钝体后回流区和主流强烈的紊流交换对燃烧室的火焰稳定性和燃烧效率起着有利的作用。

关键词： 火焰稳定器 回流区 流动特性 流体力学

Abstract:

The flow characteristics of the recirculatiou zone behind the v-guttcr flamcholcler were investigated experimentally under sub-atmosphcrc in this paper by use of a hot-wire anemometry.Two dimensional test section with a side face of glass is used.Its size is 100 × 150mm2.The distributions of the local mean velocity .turbulent intensity,Reylond stress,turbulent scale, the size of recirculation zone, relative mass flow rate were obtained. The results show that the factors above metioned arc reduced with decreasing the pressure under sub-atmosphere.The turbulent scale is increased with decreasing the pressure. The reduction of flow characteristics above and increase of turbulent scale worsen the combustion performance of fuel-air mixture in the afterburner under sub-atmosphere.Thus a new basis was provided for analysing the combustion performance of v-gutter flameholder in a afterburner under sub-atmosphere from the fluid mechanics.

Keywords: flameholder recirculation zone fluid mechanics

Received 1988-01-18;

Service
把本文推荐给朋友
加入我的书架
加入引用管理器
Email Alert
RSS
作者相关文章
李概奇
王家骅

引用本文:

李概奇;王家骅. 低压下V形火焰稳定器回流区流动特性研究[J]. 航空学报, 1989, 10(8): 447-449.DOI:

Li Gaiqi;Wang Jiahua. EXPERIMENTAL INVESTIGATION ON FLOW CHARACTERISTICS OF THE RECIRCULATION ZONE BEHIND VEE-GUTTER FLAMEHOLDER[J]. Acta Aeronautica et Astronautica Sinica, 1989, 10(8): 447-449.DOI: