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### 压气机叶栅二次流实验与理论分析

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### EXPERIMENTAL STUDY AND THEORETICAL ANALYSIS OF SECONDARY FLOW IN A COMPRESSOR CASCADE

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摘要

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摘要

本文给出了压气机叶栅出口截面的损失分布和气流角沿叶高的变化。叶栅二次涡和端壁吸力面角区分离引起流面翘曲和扭转,角区分离形成损失核心。二次流理论计算叶栅出气角沿叶高变化与实验相近。

关键词: 压气机叶栅 二次流 损失分布 出气角

Abstract:

The loss distribution and the span-wise variations of flow angle at the outlet section of a linear compressor cascade are presented in this paper. The secondary vortices and the corner separation between the end-wall and suction surface of the blade make the stream surfaces warped and twisted rather obviously. A loss core is mainly attributed to the formation of corner separation. The comparison between the values of spanwise variations of outlet angle with an inviscid secondary flow theory and those by measurement is approximated.

Keywords: compressor cascade secondary flow loss distribution outlet flow angle

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