

# 突出阻塊管道流場之數值研究

蔡永培

機械工程學系

工學院

yptsai@chu.edu.tw

## 摘要

The purpose of this numerical study is to use the MacCormack and Godunov' s method to analyze the physics of a rectangular duct flow with arrays of ribs. The effects of large eddy structures in the flow are simulated.

Turbulence model is introduced to simulate the flow field in the duct. The effects of rib height, rib spacing, and rib shape on the heat transfer coefficient and friction factor over a wide range of Reynolds number are investigated. Performance evaluation for enhancing heat transfer in the duct is developed.

關鍵字：Keyword：MacCormack method、Godunov method、Large eddy structure