

Abstract

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Numerical Simulation of Turbulent Heat Transfer in Turbine Blades

Abstract: This paper presents a numerical simulation of turbulent heat transfer in turbine blades. The simulation is performed using a finite volume method (FVM) with a turbulence model. The results show that the heat transfer coefficient is significantly higher in the turbulent flow regime compared to the laminar flow regime. The simulation results are compared with experimental data, and the results show a good agreement between the two. The simulation results are used to optimize the design of turbine blades for improved performance.

Keywords: Numerical simulation, Turbulent heat transfer, Turbine blades, Finite volume method, Turbulence model.

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