عنوان مقاله:

Entropy Generation Minimization In The Channel Flow Around A Rectangular Cylinder

محل انتشار:

نویسندگان:

Mehdi Boghrati - *Lecturer, Qaen College of Engineering, Birjand University*

Vahid Etminan - *MS Graduate, Shiraz University*;

خلاصه مقاله:

According to the importance of cooling and heating process of a solid object, entropy generation in confined flow around a block is studied. Numerical analysis is employed for solving this problem. The effects of changing the vertical and horizontal positions of the rectangular cylinder (block) on entropy generation are studied. Heat flux in the walls of the channel is considered constant in all cases and flow is laminar. The velocity and temperature profiles at channel inlet are uniform. Two types of entropy generation are studied: thermal and viscous. It is observed that viscous entropy generation is negligible. It is also concluded that locating the block closer to the inlet leads to greater entropy generation. In the direction perpendicular to the flow, there is a direct relation between thermal entropy generation and distance of the block from the center of the channel. On the other hand, this relation for viscous entropy generation is inversed.

کلمات کلیدی:

Heat Transfer, Entropy Generation Minimization, Rectangular Cylinder, Channel Flow

لینک ثابت مقاله در پایگاه سیویلیکا: