„Direct Numerical Simulation of Heat Transfer of a Round Subsonic Impinging Jet"

Abstract:

The presentation concentrates on the investigation of heat transfer of a confined round impinging jet. A direct numerical simulation was performed at a Reynolds number of Re=3300 using a grid size of 512^3 points. It is shown that the dissipative scales are well resolved. This enables the examination of the impact of the jet's turbulent flow field on the heat transfer of the impinged plate. In this study the distribution of the local Nusselt number is presented and related to the instantaneous flow field of the jet.