NUMERICAL MODELLING OF TURBULENT FLOW AROUND A CIRCULAR CYLINDER

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Abstract: In the present study, the fluid flow around a circular cylinder, a classical application in practice is investigated by means of the numerical modelling. The numerical modelling is performed with ANSYSCFD application. Once the computational domain and meshing parameters had been selected, the boundary conditions were established and then the numerical modelling was performed with two turbulent flow simulation methods $(Re> 3.5\cdot10^6)$.The first method used is the direct numerical simulation method (DNS), and the second is the SST k-ω method. The results obtained by means of each of the two methods were recorded and compared.

Keywords: numerical modelling, cylinder, turbulent flow

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