# Numerical Simulation of Turbulent Flow around Two Cam Shaped Cylinders in Tandem Arrangement 

Authors: Arash Mir Abdolah Lavasani, M. Ebrahimisabet<br>Abstract : In this paper, the 2-D unsteady viscous flow around two cam shaped cylinders in tandem arrangement is numerically simulated in order to study the characteristics of the flow in turbulent regimes. The investigation covers the effects of high subcritical and supercritical Reynolds numbers and L/D ratio on total drag coefficient. The equivalent diameter of cylinders is 27.6 mm The space between center to center of two cam shaped cylinders is define as longitudinal pitch ratio and it varies in range of $1.5<\mathrm{L} / \mathrm{D}<6$. Reynolds number base on equivalent circular cylinder varies in range of $27 \times 103<\mathrm{Re}<$ $166 \times 103$ Results show that drag coefficient of both cylinders depends on pitch ratio. However drag coefficient of downstream cylinder is more dependent on the pitch ratio.<br>Keywords : cam shaped, tandem, numerical, drag coefficient, turbulent<br>Conference Title : ICAMAME 2015 : International Conference on Aerospace, Mechanical, Automotive and Materials Engineering<br>Conference Location : Penang, Malaysia<br>Conference Dates : December 03-04, 2015

