

Flow Transformation: An Investigation on Theoretical Aspects and Numerical Computation

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Abstract : In this report we have discussed the theoretical aspects of the flow transformation, occurring through a series of bifurcations. The parameters and their continuous diversion, the intermittent bursts in the transition zone, variation of velocity and pressure with time, effect of roughness in turbulent zone, and changes in friction factor and head loss coefficient as a function of Reynolds number for a transverse flow across a cylinder have been discussed. An analysis of the variation in the wake length with Reynolds number was done in FORTRAN.

Keywords : bifurcation, attractor, intermittence, energy cascade, energy spectra, vortex stretching

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