

عنوان مقاله:

An Enhanced Characteristic Based Method for Artificially Compressible Flows with Heat Transfer

محل انتشار:

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خلاصه مقاله:

The Purpose of the current work is the development of solution methods used for compressible flows to incompressible counterparts, both for velocity and temperature fields. To use characteristic lines must be real, but incompressible flow equations does not satisfy this condition. To overcome this problem, artificial compressibility method is applied to the governing equations. To calculate the fluxes, Roe Reiman solver is applied to the equations and the required coefficients are derived for artificial compressible flow . For time- marching, 5th order Runge- Kuta algorithm is utilized. The equations are discretized in finite- volume formulation. The method is examined by solving fluid flow qver circular cylinder and comparing the recults with those available in literature. Finally, the convergence rate of the developed method ix compared with the Jameson method, in which current method shows a sensible .reduction in iteration steps

کلمات کلیدی:

Artificially Compressible Flow, Characteristic Based Method, Finite- Volume Method, Temperature Field

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