

عنوان مقاله:

Effects of Flow Reynolds Number on Surface Pressure Distributions of Axial Compressor Blade Cascades

محل انتشار:

همایش یافته های نوین در هوافضا و علوم وابسته (سال: 1394)

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خلاصه مقاله:

In this work the unsteady flow field within an axial cascade of three rotor blades has been investigated numerically using a useful computational technique with emphasis on the influence of Reynolds number on both sides of cascade blades. The theory is based on Reynolds averaged on solution of the Navier-Stokes equations using realizable k- ϵ turbulence modeling for viscous and incompressible flow. Results are confined to variations of surface pressure distributions versus Reynolds number. Conclusion shows that the relationship between axial velocity and some boundary layer characteristics moreover it is indicated that this method can predict some special viscous flow phenomena in cascades and is fast enough to be used as design tools.

کلمات کلیدی:

Compressor cascade flows, Surface pressure distribution, Boundary layer, Turbulence modeling

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