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## Internal flow Simulation of Dump Diffusers for Modern Aircraft Engines

In this paper parametric analytical studies have been carried out for the geometrical optimization of dump diffusers for modern aero-gas turbine engines. Numerical studies have been carried out using SST K- turbulence model. This code solves SST k- turbulence equations using the coupled second order implicit unsteady formulation. In the numerical study, a fully implicit finite volume scheme of the compressible, Reynolds-Averaged, Navier-Stokes equations is employed. We concluded that the judicious optimization of dump diffusers is needed with respect to its geometric and fluid dynamic constraints for controlling the pressure recovery and the losses, which can be accomplished through the CFD techniques lucratively.

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