Abstract

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Numerical simulation of confined vortex flow using a modified k-epsilon turbulence model

The turbulent flow in a tangential inlet / tangential outlet vortex tube is numerically simulated using a modified k-epsilon turbulence model. The results are compared to experimental measurements from literature. The modified model shows better agreement with the local tangential velocity measurements compared to the standard and RNG k-epsilon turbulence models. The flow structure is also demonstrated using the modified turbulence model.