

Comparison of CFD Flutter Simulations with Measurement Data for a Linear Low-Pressure Turbine Cascade

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Summary:

Steady measurements on a linear low pressure turbine cascade have been taken out to investigate the flow field. With this data steady CFD simulations are validated. This validated simulation model is used to perform unsteady calculations with the middle blade oscillating in torsion mode. For different reduced frequencies results of an influence coefficient analysis are compared to stability data of unsteady measurements on the test rig. In addition coupled CFD simulations with variable stiffness of the blade suspension are compared to flutter measurement data.