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Vortragstitel	Incorporating the Effects of Turbulence Length Scale in Turbulence and Transition Models for Turbomachinery Flows
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Abstract	An approach for the estimation of the turbulence length scale at the inflow boundary is presented. This estimation yields reasonable turbulence decay, supporting the transition model in accurately predicting the laminar-turbulent transition location and development. As an additional element of the approach, the sensitivity of the turbulence model to free-stream values is suppressed by limiting the eddy viscosity in non-viscous regions. The method is implemented in DLR's turbomachinery flow solver TRACE in the framework of the k-[omega] turbulence model by Wilcox and the [<symbols missing>] transition model by Langtry and Menter. The improved model is applied to the ERCOFTAC T3 testcases, T106A turbine and HPA 17/06 compressor cascade and is compared to experimental data.