

Abstract Submitted
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Nonlinear Parabolized Stability Equation Models for Turbulent Jets and their Radiated Sound¹ KRISTJAN GUDMUNDSSON, California Institute of Technology, TIM COLONIUS, California Institute of Technology — We investigate the nonlinear and non-parallel stability characteristics of round jets using the Nonlinear Parabolized Stability Equations (NPSE) supplemented with a turbulence model. We adopt an approach where both the meanflow and Reynolds-averaged stresses from a RANS simulation serve as input to the NPSE. We compare our predictions to measurements in the both the near and far fields of a turbulent round jet. We also compare our methodology to previous NPSE calculations for planar mixing layers and jets.

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