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Characterization of the Boundary Conditions at the Test Section Inlet for a Combustion Rig CHRISTOPHER RUSCHER, JOHN DANNENHOFFER, III, MARK GLAUSER, Syracuse University, BALU SEKAR, VINCENT BELOVICH, Air Force Research Lab — Large eddy simulations are sensitive to boundary conditions and therefore it is important to characterize the boundary conditions. The boundary conditions for the test section inlet of a combustion rig have been calculated using a computational fluid dynamic (CFD) simulation. A simulation was performed in lieu of experimental testing due to the complexity and cost of placing sensors in the upstream portions of the rig. The mean and RMS profiles for velocity as well as auto-spectrum are computed for the inlet. The calculated values will be used in future simulation work for this combustion rig.

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