

SUpport to SAfety ANalysis of Hydrogen and Fuel Cell Technologies

Verification type	Sensitivity Studies (Grid and Parameter sensitivity)
Database reference	SEN-9
Topic / Application	Hydrogen flame propagation
Physics	Combustion model Turbulence-chemistry interaction Shear Layer MILD
Summary	Primarily a validation exercise but where boundary condition sensitivity (on the CFD model) is identified as being important
Description	A numerical investigation of a jet in hot coflow (JHC) burner emulating Moderate or Intense Low-oxygen Dilution (MILD) combustion is carried out in order to understand key modelling issues for such three stream problem. The authors show that a proper choice of the turbulent kinetic energy at the inlet boundaries is mandatory for capturing the mixing at the shear layers, as this controls all downstream flowfields.
Case Title	Key modelling issues in prediction of minor species in diluted-preheated combustion conditions
Authors	J. Aminian, C. Galletti, S. Shahhosseini, L. Tognotti
Year	2011
Online reference	Applied Thermal Engineering 31 (2011) 3287e3300
Case image	
Governing equations	
Results	