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Multi-Environment Conditional PDF model for extinction and re-ignition in non-premixed combustion SEAN SMITH, RODNEY O. FOX, Iowa State University — The Multi-Environment Conditional PDF model was developed to address the deficiencies of other non-premixed combustion modeling techniques, which have difficulties with local extinction and re-ignition in highly turbulent combustion. The advantages of the MECPDF modeling approach and the formulation for multiple reaction variables with variable density have previously been presented. Recent model developments lead to model calculations that compare with results of direct-numerical simulations of temporally-evolving planar jet flames using detailed CO/H2 kinetics (E. R. Hawkes et al., Proc. of the Combust. Inst., 2007, 31, 1633-1640.) These recent developments with model validation will be presented.

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