*** ABSTRACT ONLY ***

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Comparison of FPETool: Fire Simulator With Data From Full Scale Experiments

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ABSTRACT

A comparison of the compartment zone fire model FPETool: FIRE SIMULATOR is made against the results obtained from three different full scale experimental compartment fire studies. The three experimental studies consisted of full scale testing in a chemical laboratory, an aircraft hanger, and a mock up of a residential basement. These three studies represent a variation of room geometry, ventilation factors, thermal physical properties, fuels, fire geometry and fire growth. Depending on the information presented in the original study, an attempt is made to model some or all of the following parameters, ceiling jet velocity, ceiling jet temperatures, upper layer temperatures, upper layer depth, detector link temperature, or time to sprinkler activation. The output from the FPETool: FIRE SIMULATOR runs were then compared to the experimental results as reported in the original studies. Results from these comparisons indicate that FPETool: FIRE SIMULATOR was able to model these compartment fires and give predictions that provided reasonable agreement with the data from the experiments.