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Multiphase Turbulent Reacting Flow Simulations Using ODT

Abstract

Results for application of the One-Dimensional Turbulence model to multiphase turbulent combustion of coal is considered. Results are compared to a pilot-scale reactor and the ability of the model to capture ignition delay in this situation is evaluated. Because of its low cost relative to DNS and LES, ODT can be used to explore high-fidelity thermochemistry models. We explore several models for heterogeneous and homogeneous reactions and evaluate their ability to reproduce the observed experimental data.