

24f The Effect of Gas-Solids Dispersion on a Two Fluid Model of a Transport Gasifier

Chris Guenther and Ron Breault

In a previous investigation the authors showed the sensitivity of mass transfer and gas-solids dispersion coefficients on carbon conversion using a two fluid computational fluid dynamics model. In the present investigation the sensitivity of the gas-solids dispersion coefficient is investigated for transient, three dimensional simulations of a transport gasifier. Experimental data from different axial positions along the gasifier is used to evaluate the effect of gas-solids dispersion in the CFD model and quantify the effect mesh resolution has on predicted syngas composition and carbon conversion.