

Abstract Submitted  
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**Gas and particulate phase velocity measurements of a high-speed gas jet into a two-dimensional bubbling fluidized bed** ALEXANDER MYCHKOVSKY, STEVEN CECCIO, University of Michigan — A Laser Doppler Velocimetry (LDV) technique was implemented to simultaneously measure the gas and particulate phase velocities in a high-speed jet plume in a two-dimensional (2D) bubbling fluidized bed. The gas and particulate phase velocity profiles are presented and analyzed. This includes similarity profile scaling as well as volume fraction, mass flow, and momentum transport calculations for the two phases. Furthermore, applying the Eulerian equation of motion to the particulate phase with the measured velocity profiles, the bed particle drag coefficient is recovered and is found to be consistent with the established empirical value.

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