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Abstract: In this work, a mathematical model is established to describe the axial variation of the characteristic flow parameters (particle velocity, solid loading and pressure gradient) in a downer. An empirical correlation is developed to estimate the particle velocity at the constant velocity section. Experimental investigations are made to validate the downer model. The model simulations have a good agreement with experimental data. Moreover, a formula is derived to predict the first acceleration section length and the whole acceleration section length.

关键词: 气固流化床; 颗粒速度; 固体负荷; 压力梯度

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Investigation of Air Acceleration Regime in a Gas-Solid Co-current Downer Choking Threshold Bed

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Key words: [gas-solid](#); [particle velocity](#); [solid loading](#); [downer model](#); [acceleration section](#)

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