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**On Bubble-Side Transport Limitations in Catalytic Fluid-Bed Reactors**

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**Abstract**

The effect of bubble-side, mass transport limitations on performance of the catalytic fluidized-bed reactor is investigated. The reactor model of Werther (1980) is extended by introducing such resistance in its original formulation in the form of a dimensionless Biot number. Correlations for the Biot number are proposed. The modified model is contrasted with the original model to assess the extent of such resistance. Fluid-bed reactor performance is affected especially in the case of Geldart type-B particles and at low NTUs.