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## Numerical Simulation on Gas-Solid Two-Phase Turbulent Flow in FCC Riser Reactors (II) Numerical Simulation on the Gas-Solid Two-Phase Turbulent Flow

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**摘要** Numerical simulation on the flow, heat transfer and cracking reactions in commercial fluid catalytic cracking(FCC)riser reactors were carried out employingthe developed turbulent gas-solid two-phase flow-reaction model for FCC riser reactors given in Part I of thepresent paper. Detailed information about the turbulentflow fields in the riser reactor obtained revealed the basic characteristics of the gas-solid two-phase turbulent flows when heat transfer and catalytic cracking reactions were co-existing in the riser. Results showed that the distributions of the flow, the turbulence kinetic energy and the catalyst particle concentration arenot uniform in the axial, radial and tangential directions. The most complicated part of the riser reactor is the feed injecting zone. The complicated configuration of the turbulent gas-solid two-phase flows would exert a great influence on the results of interphase heat transfer and cracking reactions.

**关键词** [commercial riser reactor](#) [flow-reaction model](#) [turbulent flow](#) [numerical simulation](#) [flow field](#)

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**Key words** [commercial riser reactor](#); [flow-reaction model](#); [turbulent flow](#); [numerical simulation](#); [flow field](#)

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