

## RESEARCH NOTES

采用CFD模拟装备标准透平浆或45°-斜向上浆搅拌反应器内部流体力学特性

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**摘要** The hydrodynamic characteristics generated by the standard Rushton or 45°-upward pitched-blade-turbine (PBT) impellers in a baffled reactor are numerically simulated for different off-bottom clearances ( $C = 1/3H$  and  $1/2H$ ) and agitator speeds (100, 150, 200, 250 and 300 r.min<sup>-1</sup>) by using FLUENT code (Version 5.4). The results are compared with the experimental and simulated data in the published papers and good agreement is observed. The shapes of the profile of mean velocities seem independent to the speed of agitators under the experimental conditions (100-300 r.min<sup>-1</sup>).

**关键词** [computational fluid dynamics](#) [hydrodynamics](#) [stirred tank](#) [sliding mesh method](#)

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### CFD Simulation of Hydrodynamic Characteristics in Stirred Reactors Equipped with Standard Rushton or 45°-Upward PBT Impeller

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**Abstract** The hydrodynamic characteristics generated by the standard Rushton or 45°-upward pitched-blade-turbine (PBT) impellers in a baffled reactor are numerically simulated for different off-bottom clearances ( $C = 1/3H$  and  $1/2H$ ) and agitator speeds (100, 150, 200, 250 and 300 r.min<sup>-1</sup>) by using FLUENT code (Version 5.4). The results are compared with the experimental and simulated data in the published papers and good agreement is observed. The shapes of the profile of mean velocities seem independent to the speed of agitators under the experimental conditions (100-300 r.min<sup>-1</sup>).

**Key words** [computational fluid dynamics](#); [hydrodynamics](#); [stirred tank](#); [sliding mesh method](#)

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