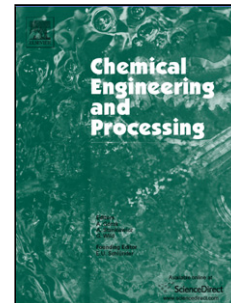


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Hydrodynamics under the jet-array of a downflow microbubble column: performance intensification

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Highlights

- Identified a backmixing hydrodynamic mode near an array of jets in a reactor vessel
- Identified momentum feedback as the hydrodynamic mechanism that forms this eddy
- Tested a device inside the reactor to destroy the hydrodynamic backmixing eddy
- Measured liquid residence time distribution and gas-transfer coefficient kLa
- Found that destruction of the backmixing eddy creates a 40% intensification of performance

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