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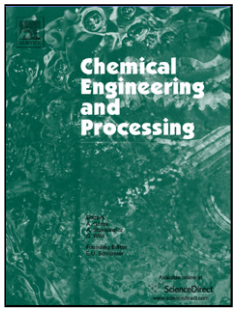

Title: Hydrodynamic study of a monolith-type reactor for intensification of gas-liquid applications

Authors: Audrey Devatine, Hélène Chaumat, Simon Guillaume, BismathTati Tchibouanga, Freddy Durán Martínez, Carine Julcour, Anne-Marie Billet

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Hydrodynamic study of a monolith-type reactor for intensification of gas-liquid applications

Audrey Devatine [a], Hélène Chaumat [a], Simon Guillaume [a], BismathTati Tchibouanga [a], Freddy Durán Martínez [a], Carine Julcour [a], Anne-Marie Billet [a]

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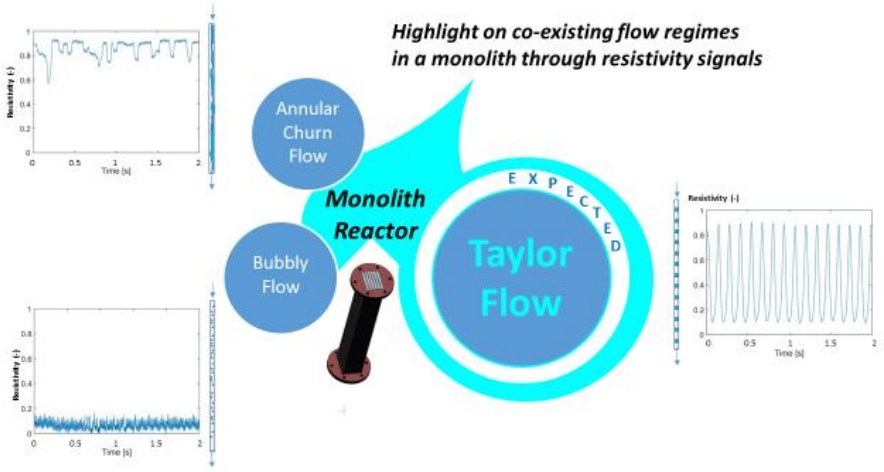
Graphical abstract



Highlights

- Investigation of flow regimes and mal-distribution in a monolith piece
- Conductance method for characterization of flow regime in channels
- Flow distribution in a monolith piece at moderate fluid flow rates

Abstract

Two-phase monolith-type reactors allow intensified heat and mass transfer rates, but often suffer from fluid maldistribution and undesired flow regimes in channels. A cold-flow monolith reactor (0.1 m diameter, 84 channels) is used here to assess liquid distribution and flow regimes at various air and water velocities: resistive probes give an insight of the flow patterns within 5

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