Institute of Chemical Engineering

Identification of constant and stable main transition velocity in bubble column reactors

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Abstract: This work presents new results about the reliable identification of the main transition velocity $U_{trans-1}$ in different bubble columns (0.1 – 0.46 m in inner diameter) equipped with several perforated plate gas distributors. Two different gas-liquid systems (air-water and air-therminol LT) have been used. The most important finding in this work is that $U_{trans-1}$ (end of the homogeneous regime) occurs at 0.04 $m \cdot s^{-1}$ irrespective of the operating conditions studied. For the $U_{trans-1}$ identification, the following parameters have been used: Kolmogorov and reconstruction entropies, degree of randomness and information entropy.

Attachments:

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