Institute of Chemical Engineering

Adres artykułu: https://iich.gliwice.pl/en/article/identification-of-constant-and-stable-main-transition-velocity-in-bubble-column-reactors

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

Publication date:	30.12.2020
Publication title:	Identification of constant and stable main transition velocity in bubble column reactors
Authors:	Stoyan Nedeltchev
Journal information:	Prace Naukowe Instytutu Inżynierii Chemicznej Polskiej Akademii Nauk
Tags:	bubble columns, flow regime identification, main transition velocity, entropy analysis

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·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:

Zeszyt-24-2020   pdf, 3.25 MB

Created at:	04.08.2025
Published by:	Artur Wojdyła
Published at:	05.08.2025 11:41
Number of downloads:	70

Tagi: bubble columns, flow regime identification, main transition velocity, entropy analysis

Metryczka

Published by:	Artur Wojdyła
Published at:	05.08.2025 14:41
Last edited by:	Artur Wojdyła
Last edited at:	05.08.2025 14:43
Number of views:	80