

## Accepted Manuscript

Experimental study on the pressure wave attenuation across gas-solid fluidized bed by single bubble injection

Kamal Nosrati, Salman Movahedirad, Mohammad Amin Sobati, Ali Akbar Sarbanha

PII: S0032-5910(16)30732-X  
DOI: doi: [10.1016/j.powtec.2016.10.051](https://doi.org/10.1016/j.powtec.2016.10.051)  
Reference: PTEC 12050

To appear in: *Powder Technology*

Received date: 30 April 2016  
Revised date: 30 August 2016  
Accepted date: 26 October 2016



Please cite this article as: Kamal Nosrati, Salman Movahedirad, Mohammad Amin Sobati, Ali Akbar Sarbanha, Experimental study on the pressure wave attenuation across gas-solid fluidized bed by single bubble injection, *Powder Technology* (2016), doi: [10.1016/j.powtec.2016.10.051](https://doi.org/10.1016/j.powtec.2016.10.051)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Experimental study on the pressure wave attenuation across gas-solid fluidized bed by single bubble injection

Kamal Nosrati, Salman Movahedirad\*, Mohammad Amin Sobati, and Ali Akbar Sarbanha

*School of Chemical Engineering, Iran University of Science and Technology (IUST), Tehran, Iran*

*\* Correspondence to: Salman Movahedirad, School of Chemical Engineering, Iran University of Science and Technology (IUST), Tehran, Iran. E-mail: movahedirad@iust.ac.ir Phone: +98 (21) 77240496, Fax: +98 (21) 77240495*

## Abstract

In this paper attenuation of the pressure wave has been studied for understanding the nature of pressure wave propagation in a gas-solid fluidized bed. The important aspect of the present work is to obtain more insights about the trend of the attenuation of the pressure wave induced by bubble injection in a fluidized bed in the whole of the bed and in the spatial intervals. Experimental results show that the attenuation of the pressure wave decreases as the diameter of bubble increases. To capture the pressure wave attenuation in the fluidized bed, it is proposed to install the pressure probe in positions approximately higher than  $\sqrt{AR}$  times of the bubble diameter, where AR is the bubble height to width ratio. Moreover, it has been found that the attenuation in upper levels of the bed is greater than that of the lower levels of the bed. The pressure wave attenuation studies confirm that the dense phase

Download English Version:

<https://daneshyari.com/en/article/4915346>

Download Persian Version:

<https://daneshyari.com/article/4915346>

[Daneshyari.com](https://daneshyari.com)