

Accepted Manuscript

Different camera and light positions to facilitate image analysis processing in rotary drums studies

Mohamed A. Karali, Eckehard Specht, Fabian Herz, Jochen Mellmann

PII: S0032-5910(16)30695-7
DOI: doi: [10.1016/j.powtec.2016.10.013](https://doi.org/10.1016/j.powtec.2016.10.013)
Reference: PTEC 12012

To appear in: *Powder Technology*

Received date: 15 January 2016
Revised date: 3 October 2016
Accepted date: 5 October 2016



Please cite this article as: Mohamed A. Karali, Eckehard Specht, Fabian Herz, Jochen Mellmann, Different camera and light positions to facilitate image analysis processing in rotary drums studies, *Powder Technology* (2016), doi: [10.1016/j.powtec.2016.10.013](https://doi.org/10.1016/j.powtec.2016.10.013)

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.

Different camera and light positions to facilitate image analysis processing in rotary drums studies

Mohamed A. Karali ^{a,*}, Ekehard Specht ^b, Fabian Herz ^b, Jochen Mellmann ^c

^a Department of Mechanical Engineering, Faculty of Engineering and Technology, Future University, 90 St., New Cairo, Egypt

^b Institute of Fluid Dynamics and Thermodynamics, Otto von Guericke University Magdeburg, Universitätsplatz 2, 39106 Magdeburg, Germany

^c Department of post-harvest technology, ATB Potsdam, Germany

Abstract

This paper represents an extension to our experimental work published previously in Karali et al., [20]. This new experimental work is mainly performed to overcome all the technical problems issued by the previous work like; camera and light positions. In order to facilitate image analysis processing in rotary drums studies. The experiments are aimed at determining the optimum loading of a flighted rotary drum (1.0 m diameter and 0.3 m length). Number of flights of 12 and 18, flight tangential / radial length ratios of 0.375, 0.75 and in addition 1.0 (for 12 flights only) and rotational speeds of 1, 3 and 5 rpm were researched. Two materials were examined: quartz sand (0.2 mm) particle diameter and glass beads (0.7 mm). All of the results from previous work [19, 20] and the present work are gathered in one correlation describing the filling degree of a flighted rotary drum as a function of many operating parameters.

Keywords: Camera position, Light angle, Rotary drums, Design loading, Flights, Holdup, Image analysis.

* Corresponding author, Tel: +202 26186100, Fax: +202 26186111.

E-Mail address: mkarali@fue.edu.eg, mohamedkarali@yahoo.com (M. A. Karali).

Download English Version:

<https://daneshyari.com/en/article/4915263>

Download Persian Version:

<https://daneshyari.com/article/4915263>

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