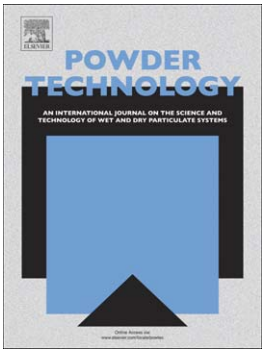

Different camera and light positions to facilitate image analysis processing in rotary drums studies

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

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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.

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