

Accepted Manuscript

Anomalies in normal and oblique collision properties of spherical particles

Vikul Tomar, Manaswita Bose

PII: S0032-5910(17)30894-X
DOI: doi:[10.1016/j.powtec.2017.11.025](https://doi.org/10.1016/j.powtec.2017.11.025)
Reference: PTEC 12944

To appear in: *Powder Technology*

Received date: 19 May 2017
Revised date: 17 October 2017
Accepted date: 8 November 2017



Please cite this article as: Vikul Tomar, Manaswita Bose, Anomalies in normal and oblique collision properties of spherical particles, *Powder Technology* (2017), doi:[10.1016/j.powtec.2017.11.025](https://doi.org/10.1016/j.powtec.2017.11.025)

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.

Anomalies in normal and oblique collision properties of spherical particles

Vikul Tomar*, Manaswita Bose

*Department of Energy Science and Engineering, Indian Institute of Technology Bombay,
Powai, Mumbai, India- 400076*

Abstract

Collision of particles either between themselves or with the wall, are typically characterized by normal and tangential coefficients of restitution, which depend on material and surface properties of the colliding objects. An accurate estimate of coefficients of restitution is of importance as it is one of input parameters in the discrete element simulations of a large system of particles. Often anomalies in the experimentally obtained values of the coefficients are reported in the literature. In the present work, both normal and tangential coefficients of restitution along with the surface and the local material properties are determined and compared with the predictions of the existing models. In certain cases, the experimentally obtained values agree fairly well with the values determined using the models while in some other cases anomalies in the experimental results are observed.

Keywords: Collision properties, Oblique collision, Coefficient of

*Corresponding author

Email address: vikul_tomar@iitb.ac.in (Vikul Tomar)

Download English Version:

<https://daneshyari.com/en/article/6675942>

Download Persian Version:

<https://daneshyari.com/article/6675942>

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