

Normal Collisions of Spheres: A Literature Survey on Available Experiments

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(Submitted on 30 Mar 2012)

The central collision between two solid spheres or the normal collision between a sphere and a plate are important to understand in detail before studying more complex particle interactions. Models exist to describe this basic problem but are not always consistent with available experiments. An interesting benchmark to compare models and experiments is the relation between the normal coefficient of restitution e and the incident velocity v . In order to draw a broad comparison between experiments and models (Krijt, S., Tielens, A.G.G.M., Gttler, C., Heielmann, D., Dominik, C., Phys. Rev. E, submitted), we provide in this article an overview on the literature describing experiments on normal collisions, preferably providing data on $e(v)$. We will briefly summarize our expectation on this relation according to an established collision model in order to classify these experiments. We will then provide an overview on experimental techniques, which we found in the summarized articles, as well as a listing of all experiments along with a description of the main features of these. The raw data on $e(v)$ of the listed experiments were digitized and are provided with this article.

Subjects: **Classical Physics (physics.class-ph)**; Geophysics (physics.geo-ph)

Cite as: **arXiv:1204.0001 [physics.class-ph]**

(or **arXiv:1204.0001v1 [physics.class-ph]** for this version)

Submission history

From: Carsten Gttler [[view email](#)]

[v1] Fri, 30 Mar 2012 06:17:30 GMT (271kb,D)

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