

PROPOSED METHOD FOR MEASURING THE COEFFICIENT OF RESTITUTION

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Abstract: The impact between a steel ball and a vertical steel plate is studied, figure 1.

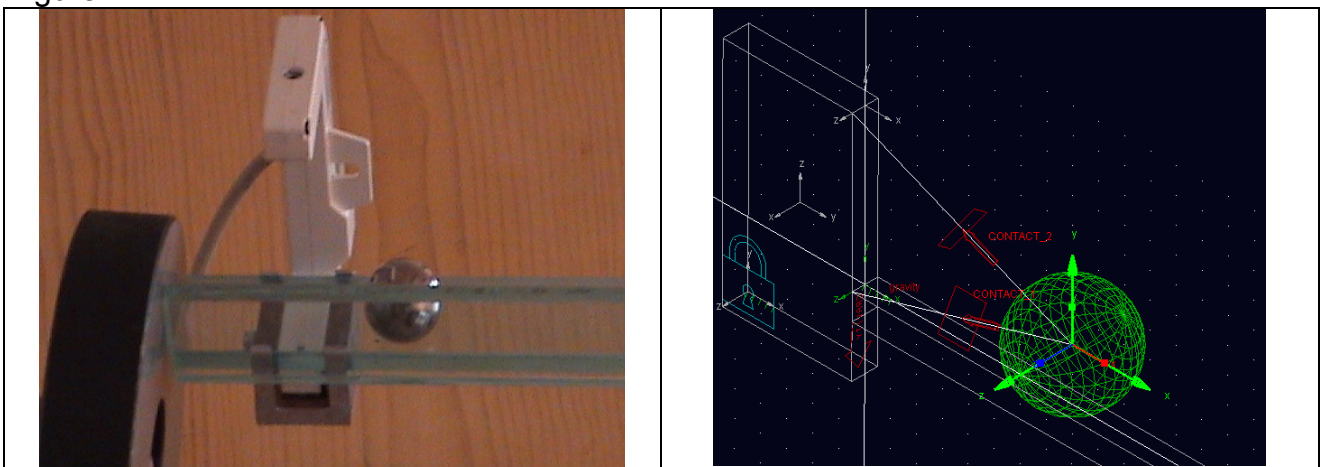


Figure 1. Experimental device (photo and simulation)

The ball rolls on a glass chute before and after impact. A MultiLogPRO data logger and a photogate are used to measure the velocities of the ball, initially and after impact, figure 2.

With the measured values, the coefficient of restitution COR is computed as the ratio of velocities after and before an impact and the variation versus the impact velocity is plotted. The whole impact modeling considers the sphere as a particle, neglecting the angular velocity.

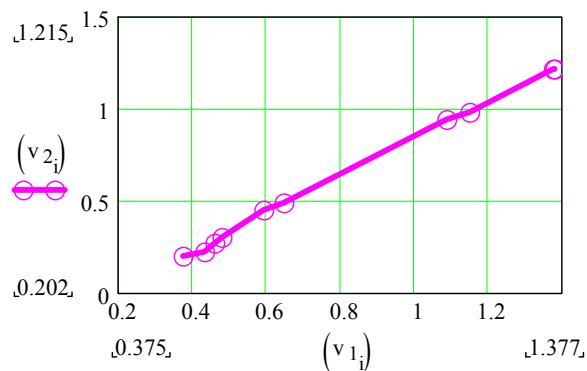


Figure2. Velocities after impact versus initial velocities

REFERENCES

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