# Elastic impacts and a new kind of dynamic complementarity problem

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Simple experiments and simulations show that simple models based on fixed coefficients of restitution are often physically inaccurate. To overcome this a simplified model of elastic impacts is described. Using some ideas of Schatzman, this is shown to lead to a new kind of dynamic complementarity problem, and brings us close to a resolution of the simplified problem. It is shown that this can be a computationally efficient way of producing physically accurate simulations.