

Simulation of Contacting Spatial Polyhedral Particles

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It is goal of the work presented here, to investigate the dynamical behaviour of granular material or bulk solids, in order to simulate procedures in hauling engines, shaking machines, filler constructions, etc. Due to the fact, that a detailed simulation considering also the deformability of every single particle is very time consuming, methods from molecular dynamics (MD) are used, so that it is possible to determine the motion of many bodies. To describe the equations of motion, Multibody System Dynamics are used. Here, arbitrarily shaped polyhedron can be described easily. In the talk we want to address shortly both methods, want to talk about the combination of both methods, about the contact detection for non-convex polyhedron, and we want to present some of our results. Several animations will be shown, that straighten out possible appliances.

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