Seminário de Mecânica

Numerical Simulations of Granular flows on a Crater Collapse

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Abstract.

In this work, we expose in detail the basic theory and build the numerical tools necessary to set up the model configuration to study the collapse of a crater made of granular materials. A container is filled with spherical grains constrained to bidimensional displacements, and interactions between each pair of particles are subjected to elastic forces that depend on the material and a dissipative force which depends on the *a priori* assumption of the material being considered elastic or viscoelastic. The pile then evolves to a metastable state, and from such pile we remove a certain amount of grains from the surface, forming an initial rectangular cavity which then flows in a transient fashion to another final metastable configuration.