

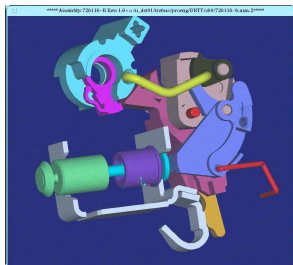
# Numerical analysis and simulation methods of nonsmooth mechanical systems

Vincent Acary  
INRIA Rhône-Alpes, Grenoble.

Nonsmooth contact mechanics. Spring school. Aussois 2010

- ▶ Lecture 1 ( $\approx 1\text{h}00$ ). Basics on nonsmooth mechanical systems.
- ▶ Lecture 2 ( $\approx 2\text{h}00$ ). Numerical methods for time integration of NonSmooth Mechanical systems
- ▶ Lecture 3 ( $\approx 1\text{h}00$ ). Solving the frictional contact problem with impacts.

## Simulation of Circuit breakers (INRIA/Schneider Electric)



Bipedal Robot INRIA BIPOP

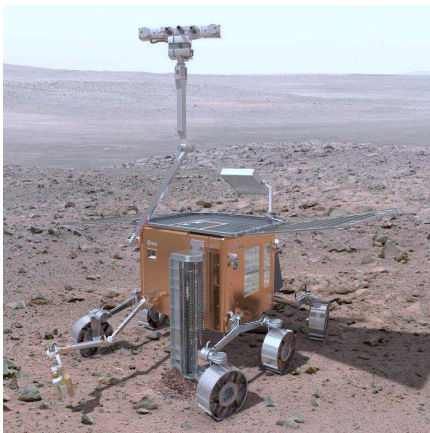


# Mechanical systems with contact, impact and friction

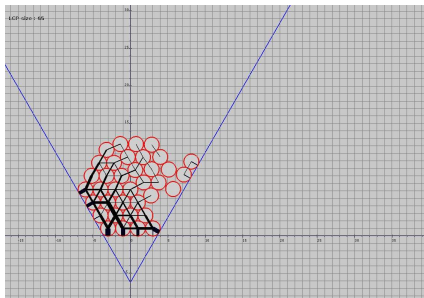
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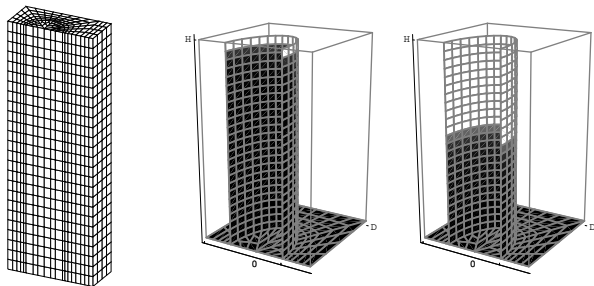
## Simulation of the ExoMars Rover (INRIA/Trasys Space/ESA)



## Stack of beads with perturbation



## FEM models with contact, friction cohesion, etc...



Joint work with Y. Monerie, IRSN.

## Divided Materials and Masonry

