

# **A time-stepping scheme for multibody dynamics with unilateral constraints**

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We are interested in frictionless vibro-impact problems i.e. systems of rigid bodies submitted to perfect unilateral constraints. The dynamics is described by a second order measure differential inclusion for the unknown positions, completed by a constitutive impact law of Newton's type.

Motivated by the computation of approximate solutions, we propose a time-stepping scheme deriving from an Euler discretization of the measure differential inclusion and the convergence of the approximate solutions is proved.