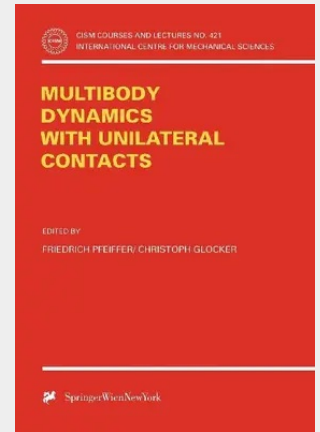


Multibody Dynamics with Unilateral Contacts

The volume introduces basic concepts necessary for a modern treatment of inequality problems in finite degree of freedom dynamics. Tools from convex analysis, by now well established in non-smooth mechanics, are used to formulate the constitutive equations and impact laws. The lectures cover a broad area of non-smooth dynamics from primal and dual energy functions in variational and differential form to application problems as chimney dampers or vibration conveyors. This includes frictional oscillations with bifurcation scenarios as well as analogies to small displacement quasi-static problems. The course is on an advanced level, designed primarily for postgraduate students, but should also be of value for scientists working on dynamic complementarity problems.

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