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The Damped Normal Compliance contact condition and frictional slip waves

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Abstract: The talk describes new results concerning the new Damped Normal Compliance (DNC) contact condition. The condition takes into account energy dissipation during the contact process. We describe the three cases of impact of a rigid body, a rod or a beam on a DNC obstacle. These works deal with the models, analysis and computer simulations of the contact processes. Then, we describe two results on the initiation of sliding in systems with spring-mass-damper when friction is taken into account, of two and three masses. Finally, we describe a few unresolved issues in these models that are of interest for further research.