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MS3: Variational and Hemivariational Inequality Problems: Analysis, Numerics and Applications

# An Introduction to Hemivariational Inequalities with Applications to Contact Mechanics

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**Abstract:** The purpose of this talk is primarily to discuss issues related to modeling of physical phenomena based on formulations with nonsmooth and nonconvex energy functions and in particular on hemivariational inequalities. Besides a discussion on motivation and basics of such inequalities, we provide an overview of various models from Contact Mechanics for solids and fluids, and we indicate how their variational formulations naturally lead to hemivariational inequalities. Finally, results on well posedness to stationary and evolutionary inequalities and their rigorous proofs will be of particular interest to the audience. We try to keep the presentation as simple as possible and this makes it accessible also to newcomers to this field.