Talk announcement (ZOOM)

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(Meeting-ID: 970 3332 8606, Password: 843791)

Variational Inequalities and Their Finite Element Discretization

The aim of this talk is to present an analysis of variational inequalities, which originate from physical contact problems. The first part of the talk introduces the classical Signorini problem and the corresponding variational inequality, where existence and uniqueness of the solution are guaranteed under specific assumptions. In order to solve the variational inequality numerically, the discretization of the problem need to be considered. The question about the accuracy of the approximate solution will be precisely treated. Indeed, the error analysis gives a statement about the convergence speed in dependence of h, which will compared by means of numerical examples using the Finite Element method with penalty formulations in order to handle the constraints coming from the variational formulation. The Finite Element method is considered by the software FreeFem++.