INVITATION TO THE LECTURE

NOVEMBER 22, 2024   9:30   ROOM 213

IMPROVING QUADRATIC PROGRAMMING ALGORITHMS

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This talk is about author's Ph.D. thesis *Improving Quadratic Programming Algorithms*.

CONVEX OPTIMIZATION PROBLEMS INSPIRED BY GEOTECHNICAL STABILITY ANALYSIS

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This presentation is motivated by the limit load, limit analysis and shear strength reduction methods, which are known in geotechnical stability analysis or similar applications. In order to approach the topic for a broader class of scientists and extend its mathematical background, we consider abstract algebraic systems of parametrized equations and related convex optimization problems. Assumptions on the abstract problems are proposed to catch selected features of these methods and analyze them. Then, suitable continuation techniques are suggested. The derived theoretical results are illustrated on analytical and numerical examples.