Vortrag zur Optimierung

EINLADUNG ZUM VORTRAG

Es spricht

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(Karlsruher Institut für Technologie)

zum Thema:

A short introduction to copositive optimization

Abstract:

Convex optimization problems are generally considered to be easy problems due to many favorable features such as the simplicity of the underlying geometry, identity of global and local solutions and powerful concepts such as convex duality. In the nonconvex world all these features are amiss, which raises the difficulty substantially. Quadratically constraint quadratic optimization problems sit right at the threshold between convex and nonconvex problems. Although in general nonconvex, this versatil class of optimization problems contains many interesting instances, where convex reformulations are available. An elegant way of deriving such reformulations is provided by the theory of copositive optimization. The aim of these techniques is to reformulation nonconvex QCQPs into optimization problems over the so called copositive matrix cone. Although these convex conic problems are themselves as hard as the original QCQP, they offer a unique perspective on the problem since due the convexification all the nice features from convex optimization can be exploited in for a nonconvex setting. In this seminar we will have a short introduction to the basics of copositive optimization that hopefully convinces the participants that we can tackle complicated problems with conceptually simple and elegant methods provided by convex geometry.

Donnerstag, 13. Juli 2023, 13:00 Uhr, Raum C 325 im Curiebau

Alle Interessierte sind herzlich eingeladen.

Ilmenau, 19.04.2023   Prof. Dr. Gabriele Eichfelder