

数学与系统科学研究院
计算数学所网络学术报告

报告人: 蓝光辉 教授

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报告题目:

Projection-free methods and their applications

邀请人: 戴彧虹 研究员

报告时间: 2020 年 7 月 12 日 (周日)
上午 9:00-10:30

报告工具: 腾讯会议 (ID: 688 105 408)

直播地址:

<https://meeting.tencent.com/s/tgca5Xu50GJF>

Abstract:

Projection-free methods have recently attracted much interest in both machine learning and optimization communities. These simple methods can guarantee the generation of sparse solutions. In addition, without the computation of full gradients, they can handle huge-scale problems sometimes with an exponentially increasing number of decision variables. In this talk, we provide an overview of projection-free methods starting from the classic conditional gradient (a.k.a. Frank-Wolfe method) and a few of its variants. We present some new conditional gradient methods for solving convex optimization problems with general affine and nonlinear constraints in order to significantly expand the application areas of these methods. We illustrate the advantages of projection-free methods for solving an important class of radiation therapy treatment planning problems arising from healthcare industry.

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