数学与系统科学研究院

计算数学所学术报告

报告人： Prof. Wei Yu

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报告题目：

Fractional Programming for Communication Systems

邀请人： 刘亚锋 副研究员

报告时间：2018 年 12 月 17 日（周一）

上午 10:00-11:00

报告地点： 科技综合楼三层

311 报告厅

Abstract：

This talk proposes a new transform technique for solving fractional programming (FP), i.e., optimization problems involving ratio terms. The classic FP techniques such as the Dinkelbach's method can only deal with the single-ratio case and is difficult to be extended to the optimization of multiple ratios. This talk will introduce our recent progress in solving FP with multiple ratios and matrix ratios, along with a range of applications for communication system design, including energy efficiency enhancement, uplink user scheduling, and multiple-input multiple-output (MIMO) device-to-device communications. Furthermore, the talk will discuss the connections of FP to the minorization-maximization, the fixed-point iteration, and the weighted minimum mean-square error algorithm.

(Joint work with Kaiming Shen)

Biography:

Wei Yu received the B.A.Sc. degree in Computer Engineering and Mathematics from the University of Waterloo, Waterloo, Ontario, Canada in 1997 and M.S. and Ph.D. degrees in Electrical Engineering from Stanford University, Stanford, CA, in 1998 and 2002, respectively. He is now Professor and holds a Canada Research Chair (Tier 1) in Information Theory and Wireless Communications in the Electrical and Computer Engineering Department at the University of Toronto, Canada. Prof. Wei Yu currently serves on the IEEE Information Theory Society Board of Governors. He was an IEEE Communications Society Distinguished Lecturer (2015-16), and currently is an Area Editor for the IEEE Transactions on Wireless Communications. He chairs the Signal Processing for Communications and Networking Technical Committee of the IEEE Signal Processing Society (2017-18). Prof. Wei Yu received the IEEE Signal Processing Society Best Paper Award in 2017 and 2008, the Journal of Communications and Networks Best Paper Award in 2017, an E.W.R. Steacie Memorial Fellowship in 2015, an IEEE Communications Society Best Tutorial Paper Award in 2015, and an ICC Best Paper Award in 2013. Prof. Wei Yu is recognized as a Highly Cited Researcher. He is a Fellow of IEEE and a Fellow of Canadian Academy of Engineering.

欢迎大家参加！