COOL RESEARCH

系列报告第六讲

报告人：李修贤（同济大学教授）

报告题目：分布式在线优化与博弈

Control, Optimization, Operations research, and Learning (COOL) Research Seminar是由北大工学院相关领域的几位老师发起，旨在为国内外青年学者提供一个交流平台，分享和探讨最新最有趣的研究成果，促进领域内和跨领域沟通学习，推动前沿理论的发展。

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Distributed Online Optimization and Game

摘要：Online learning is a popular paradigm for decision making in dynamic or even adversarial environments. With the advent of big data, distributed online optimization and game over multi-agent networks have thus far been increasingly focused in the last decade, where a network of agents commit their decisions via local communication in dynamic environments. They are characterized by cooperative and noncooperative phenomena among all the agents, respectively. This talk aims to introduce distributed online optimization (DOO) and online game (OG) with some cutting-edge developments in several aspects, including the case with coupled inequality constraints and distributed online aggregative optimization, and DOO with control systems with application to autonomous docking for unmanned systems. For each scenario, distributed online algorithms are proposed with guaranteed performances, i.e., sublinear static/dynamic regret and constraint violation or fit.

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