

Solving Large-Scale Power Grid Optimization Problems

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Talk will take place from 11:15AM - 12:05PM through Zoom

Abstract: In this talk, we will discuss some new advances in solving large-scale power grid optimization problems, especially the AC optimal power problem and its variants with security constraints, unit commitment, and transmission line switching. We present some new algorithm development as well as extensive computational results from the participation in the ARPA-E Grid Optimization Competition.

Bio: Dr. Andy Sun is the Iberdrola-Avangrid Professor in Electric Power Systems and Associate Professor in Operations Research in the Sloan School of Management at MIT. Dr. Sun has broad research interests in nonconvex optimization in both continuous and discrete domains, multistage stochastic and robust optimization, distributed optimization of nonconvex network constrained programs, and stability and control of second-order oscillators. Dr. Sun's research has won several awards, including the Dantzig Dissertation Award, the NSF CAREER Award, the INFORMS ENRE Best Publication in Energy, the Best Paper Published in IEEE Trans. Power System, among others. Dr. Sun obtained his PhD degree in Operations Research from MIT, and was an Associate Professor at Georgia Tech, before joining MIT.