

数学与系统科学研究院

计算数学所学术报告

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报告题目: **Neurodynamic Optimization**

邀请人: 洪佳林研究员

报告时间: **2018年3月20日(周二)**

上午 10:00--11:00

报告地点: **数学院南楼N514 教室**

报告摘要:

Real-time optimization models are parallel computational methods for solving linear or nonlinear programming problems. The majority of such models are implemented by recurrent neural networks. The most important principles to design neural network models for optimization are penalty methods, Lagrangian

methods, duality Methods and projection methods. These principles are used to design models for smooth and nonsmooth optimization. Neural network optimization models can be classified from various points of view.

The first is solution quality, which is about the structure of model that is designed to find an exact optimal solution. The second is application scope, which shows the kinds of problems that can be solved by the designed model; linear, quadratic, nonlinear, convex, nonconvex, smooth, nonsmooth and so on. The third is convergence behavior, containing global convergence or local convergence. If for any initial solution, chosen from domain of the functions that is defined in the problem, solution trajectory converges to an optimal solution (or approximation of the optimal solution), then the model is globally convergent. In this talk some definitions about neurodynamic optimization will be given, and then some designed neural network models for solving optimization problems will be introduced.

欢迎大家参加！