



复旦大学数学科学学院 数学综合报告会

报告题目: Joint Fudan - RICAM Seminar on Inverse Problems

报告人: Stefan Kindermann (Johannes Kepler University Linz)

时间: 2020-11-25 星期三 20:00-21:00

地点: <https://www.gotomeet.me/Ricam2/joint-fudan---ricam-seminar>

报告摘要:

This talk is about the heuristic (or data-driven) choice of the regularization parameter in the regularization theory of ill-posed problems. Here, heuristic means that the parameter is chosen independent of the knowledge of the noise level (or any other supplementary information).

Recently, a convergence theory for several heuristic parameter choice methods (for linear regularization) has been developed on basis of the so-called noise-restricted convergence analysis. Withing this framework, one can circumvent the restrictions of the so-called Bakushinskii veto.

We outline the corresponding theory and present theoretical results for the most important examples of heuristic parameter choice rules.

We furthermore discuss some recent results in this direction for convex, nonlinear Tikhonov regularization, together with some open research questions.

非线性数学模型与方法教育部重点实验室
中法应用数学国际联合实验室
上海市现代应用数学重点实验室
复旦大学数学研究所