

题目：Bayesian Inference, Machine Learning and Physics-Informed Neural Networks methods for Inverse Problems

报告摘要

Topic1: Bayesian Inference for Inverse Problems and multi-modal image fusion

Classical deterministic methods for inverse problems are mainly based on regularization theory. The Bayesian approach gives more flexibility in choosing these terms via the likelihood and the prior probability distributions. In this talk, particular examples of classical inverse problems, such as image denoising, more difficult image restoration and Computed Tomography image reconstruction will be considered. Then, a multimodal image fusion encountered in Non Destructive Testing is considered and different forward modeling and Bayesian solutions are presented.

报告人简介

嘉法理博士曾任法国国家科学研究中心研究主任，法国巴黎第十一大学终身教授，智能探测领域资深专家。他提出的高斯-波特图像分割算法、快速贝叶斯变分法、超参数贝叶斯推断方法等，受到国际学术和工业界高度认可。相关研究成果在无损探测、机械故障诊断、医学图像识别和工业大数据分析领域等广泛应用，被欧洲空中客车、法国泰勒斯、达索飞机、法国核电等直接采用。发表论文 300 余篇、2 部专著、12 本教材、培养博士生 21 位、硕士生 31 位。现为上专股份首席科学家、总工程师，首位浙江省引进的产业类国际顶尖人才。