

数学与系统科学研究院学术报告

报告题目: Non-asymptotic confidence regions for model parameters

报告人: Prof. Erik Weyer, Department of Electrical and Electronic Engineering,
The University of Melbourne

时间地点: 2007年9月27日上午9:30—11:30, 思源楼712

摘要:

We consider the problem of constructing confidence regions for the model parameters of dynamical systems from observed data. We introduce a new approach called Leave-out Sign-dominant Correlation Regions (LSCR) which delivers confidence regions with guaranteed probability. Based on subsampling techniques, we derive the exact probability that the true parameters belong to certain regions in the parameter space. By intersecting these regions, a confidence set containing the true parameters with guaranteed probability is obtained. All results hold true for any finite number of data point. Moreover, prior knowledge on the noise affecting the data is reduced to a minimum. The approach will be illustrated on simulation examples, showing that it delivers practically useful confidence sets with guaranteed probabilities.

报告人简介及联系方式:

Homepage: <http://www.ee.unimelb.edu.au/staff/ewey/>

Email: e.weyer@ee.unimelb.edu.au