

数学与系统科学研究院

计算数学所学术报告

报告人: 张磊 副教授

( 北京大学 北京国际数学研究中心 )

报告题目:

**Construct the Solution Landscape on  
a complicated energy landscape**

邀请人: 于海军 副研究员

报告时间: 2019 年 10 月 17 日(周四)

下午 14:00-15:00

报告地点: 数学院南楼二层

205 教室

## **Abstract:**

How do we search for the entire family tree of possible intermediate states, without unwanted random guesses, starting from a stationary state on the energy landscape all the way down to energy minima? Here we introduce a general numerical method that constructs the solution landscape, which is a pathway map connecting all stationary points. The solution landscape guides our understanding of how a physical system moves on the energy landscape. The method identifies the transition state between energy minima and the energy barrier associated with such a state. As an example, we solve the Landau-de~Gennes energy incorporating the Dirichlet boundary conditions to model a liquid crystal confined in square box; we illustrate the basic concepts by examining the multiple stationary solutions and the connected pathway maps of the model.

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