

数学与系统科学研究院

计算数学所学术报告

报告人: **Dr. Beibei Zhu**

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报告题目:

**Energy preserving methods for  
guiding center system**

邀请人: 唐贻发 研究员

报告时间: **2021 年 11 月 27 日 (周六)**

**上午 10:00-11:00**

报告地点: 数学院南楼

**702 教室**

## **Abstract:**

**We propose a family of energy-preserving methods for guiding center dynamics by perceiving its Hamiltonian nature. The energy conservation, symmetric property and algebraic order of these methods are studied. 2nd-order and 4th-order symmetric energy-preserving methods are applied to simulate the motion in dipole magnetic field and tokamak magnetic field with toroidal electric field. Numerical results show their significant superiority over the existing methods.**

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