

数学与系统科学研究院

计算数学所定期学术报告

报告人：郑春雄教授

(清华大学)

报告题目：

**Optimal error estimates for
first-order Gaussian beam
approximations to the Schrodinger
equation**

邀请人：季霞副研究员

报告时间：2017年11月9日(周四)

下午 16:00-17:00

报告地点：数学院思源楼

一层报告厅

报告摘要:

Gaussian beams are generally local asymptotic solutions to the linear wave equations in the high-frequency regime. Each Gaussian beam is concentrated around a specific ray path determined by the underlying Hamiltonian system. Expressed as some superposition of Gaussian beams, Gaussian beam approximation is expected to be a high-frequency asymptotic solution which remains globally valid even around caustics. We derive optimal first-order error estimates for first-order Gaussian beam approximations to the Schrodinger equation equipped with a WKB initial data. Our error estimates are valid for any spatial dimension and unaffected by the presence of caustic.

欢迎大家参加！