

数学与系统科学研究院

计算数学所学术报告

报告人: Assistant Prof. Hans-Werner van Wyk

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报告题目:

**Clenshaw-Curtis Type Rules for  
Statistical Integrals**

邀请人: 龚伟 副研究员

报告时间: 2019 年 7 月 2 日 (周二)

下午 15:00-16:00

报告地点: 科技综合楼三层

301 报告厅

## **Abstract:**

**In statistics, many commonly encountered quantities take the form of density weighted integrals. This talk treats their numerical estimation within the Chebyshev approximation framework. In particular, we discuss how a generic one dimensional density function can be incorporated into the construction of Clenshaw-Curtis type quadrature rules, either through an adjustment of the quadrature weights or by generating a set of quadrature nodes that satisfies the optimal spacing property in terms of the density-weighted uniform error. We consider a variety of density functions, including those that are piecewise continuous, or have unbounded support. The accompanying numerical experiments illustrate the behavior and performance of the resulting quadrature rules and offer a comparison with a variety of existing approaches for estimating density weighted integrals.**

**欢迎大家参加！**