



QMC Opening Workshop August 28-September 1, 2017

Lecture: *Numerical Integration in Hermite Spaces*

Speaker: Peter Kritzer

Abstract:

In this talk, we give an overview of results on numerical integration in Hermite spaces. These spaces contain functions defined on \mathbb{R}^d , and can be characterized by the decay of their Hermite coefficients. We consider the case of exponentially as well as polynomially decaying Hermite coefficients. For numerical integration, we either use Gauss-Hermite quadrature rules or algorithms based on quasi-Monte Carlo rules. We present upper and lower error bounds for these algorithms, and discuss their dependence on the dimension d . Furthermore, we comment on open problems for future research.