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Kolloquium über Angewandte Mathematik

Donnerstag, den 28. Mai 2009, 17 Uhr c.t., Hörsaal 5

Prof. Dr. Stefano de Marchi (Verona)*

„Padua Points: Computational Aspects and some Applications“

Zusammenfassung/Abstract

The problem of choosing nodes on a given compact set is a central one in multivariate polynomial interpolation. Besides unisolvence, which is by no means an easy problem, for practical purposes one needs slow growth of the Lebesgue constant and computation efficiency.

In this talk, we present the family of Padua points, a set of unisolvent points in the square $[-1,1]^2$, which show Lebesgue constants with minimal order of growth $\mathcal{O}(\log^2(n))$ (n the degree of the interpolating polynomial). We also discuss recent developments in the efficient computation of polynomial interpolation and cubature based on these points.

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