

Optimal quasi-Monte Carlo rules on higher order digital nets for numerical integration of multivariate periodic functions

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We investigate quasi-Monte Carlo rules for the numerical integration of multivariate functions from Besov spaces of dominating mixed order less than 2. One of the main tools used is the characterization of the Besov spaces via Haar and Faber bases. It turns out that higher order digital nets provide optimal QMC-rules in this context. This is joint work with Lev Markhasin, Tino Ullrich and Jens Oettershagen.