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WEIGHTED APPROXIMATION ON THE BALL

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Abstract

In this talk we explore the best approximation on the ball by means of orthogonal polynomials associated with weight functions that are invariant under reflection groups. A theory of orthogonal polynomials in this context can be developed in analogy to that for the orthogonal polynomials associated to standard spherical harmonics. Here, the standard first order partial differential operators are replaced by a family of commuting first order difference-differential operators: the so called Dunkl operators.

Keywords: best approximation, orthogonal polynomials, unit ball.

AMS Classification: 33C50, 42C10.

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