ANALYSIS ON THE UNIT BALL AND ON THE SIMPLEX[*]

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Dedicated to Ed Saff on the occasion of his 60th birthday

Abstract. Many results on the unit ball and those on the simplex can be deduced from each other or from the corresponding results on the unit sphere. The areas in which such a connection appears include orthogonal polynomials, approximation, cubature formulas and polynomial interpolation. We explain this phenomenon in some detail.

Key words. analysis, ball, simplex, orthogonal polynomials, approximation, cubature

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