

**A NOTE ON THE SHARPNESS OF THE REMEZ-TYPE INEQUALITY FOR  
HOMOGENEOUS POLYNOMIALS ON THE SPHERE\***

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

**Abstract.** Remez-type inequalities provide upper bounds for the uniform norms of polynomials  $p$  on given compact sets  $K$ , provided that  $|p(x)| \leq 1$  for every  $x \in K \setminus E$ , where  $E$  is a subset of  $K$  of small measure. In this note we obtain an asymptotically sharp Remez-type inequality for homogeneous polynomials on the unit sphere in  $\mathbb{R}^d$ .

**Key words.** Remez-type inequalities, homogeneous polynomials

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