Fedorov, V. M.
Approximation of functions on a sphere. II. (English. Russian original) Zbl 0767.41022

Summary: [For part I see ibid. I 1990, No. 1, 15-23 (1990; Zbl 0728.41021).]

The order of the approximation of functions on the unit sphere of Euclidean space by spheric polynomials is investigated. The notion of \( r \)th smoothness modulus for functions being summand is introduced and its principal properties are proved. A multi-dimensional analog of Jackson inequalities in the integral metric is proved, which takes into account the growth of the dimension of the sphere.

MSC:
41A30 Approximation by other special function classes
41A10 Approximation by polynomials
41A50 Best approximation, Chebyshev systems
41A65 Abstract approximation theory (approximation in normed linear spaces and other abstract spaces)
41A17 Inequalities in approximation (Bernstein, Jackson, Nikol’skii-type inequalities)

Keywords:
spheric polynomials; Jackson inequalities