The estimations for maximal operators.

ABSTRACT

In this paper we study the almost everywhere convergence of the spectral expansions related to the Laplace–Beltrami operator on the unit sphere. Using the spectral properties of the functions with logarithmic singularities, the estimate for maximal operator of the Riesz means of the partial sums of the Fourier–Laplace series is established. We have constructed a different method for investigating the summability problems of Fourier–Laplace series, which based on the theory of spectral decompositions of the self-adjoint Laplace–Beltrami operator.