PROPERTIES OF THE SYMBOL OF MULTIDIMENSIONAL
SINGULAR INTEGRALS IN THE WEIGHTED
SPACES AND OSCILLATING MULTIPLIERS

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Abstract. Differential properties of symbols of multidimensional singular integrals in the weighted
space of Bessel potentials on the sphere with the weighted functions, having singularities on a
sphere are studied. The main results are applied to obtaining theorems on Fourier multipliers of
spherical harmonic expansions.


Keywords and phrases: Symbols, Beltrami operator, spherical harmonics, Hardy inequalities, multi-
pliers, the space of potentials.

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