

Specific Properties of Lipschitz Class Functions

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We consider the Lipschitz class functions on $[0, 1]$ and special series of their Fourier coefficients with respect to general orthonormal systems (ONS). The convergence of classical Fourier series (trigonometric, Haar, Walsh systems) of Lip 1 class functions is a trivial problem and is well known. But general Fourier series, as it is known, even for the function $f(x) = 1$ does not converge. On the other hand, we show that such series do not converge with respect to general ONSs. In the paper we find the special conditions on the functions φ_n of the system (φ_n) such that the above-mentioned series are convergent for any Lipschitz class function. The obtained result is the best possible.