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8. Analysis

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Ziza, O. A., Moscow State Inst. of Electronics and Mathematics, Russia

On absolute summability of orthogonal series.

Let $\sum c_n f_n(x)$ be an orthogonal series (OS) in $L^2[0,1]$. It is called *summable* at the point x by *the method* $|SF^*, \varphi, \lambda|$, where $\varphi = \varphi(t),\ t \in [0,1],\ varphi(0) = 1,\ \varphi(1) = 0$, and $\lambda = \{\lambda_n\},\ 0 \le \lambda_n \uparrow \infty$, if $\sum |\sigma_{\nu+1}(x) - \sigma_\nu(x)| < \infty,\ \sigma_\nu(x) = \sum c_n f_n(x) \varphi(\lambda_n \lambda_{\nu+1}^{-1})$. We present necessary and sufficient conditions for $|SF^*, \varphi, \lambda|$summability (in particular by Riesz methods) of OS a. e.

References: O. A. Ziza, 1)On absolute summability of orthogonal series, *Acta Sci. Math.* (*Szeged*), 2)Summability of Orthogonal series (a monograph, in preparation)