On the almost everywhere convergence of multiple Fourier series of square summable functions

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Abstract. We prove that if the lacunary partial sums of the Fourier series of every square summable function concerning each one-dimensional orthonormal system $\Phi_1, \ldots, \Phi_d$ converge almost everywhere, then the product system $\Phi_1 \times \cdots \times \Phi_d$ also has a similar property for a quite general type of partial sums.

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