

CONVERGENCE OF TRIGONOMETRIC SERIES

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We discuss three new convergence criteria (for $p = \infty$, $1 < p < \infty$, and $p = 1$) of belonging of sums of trigonometric series to L_p . One-dimensional and multi-dimensional cases are examined. We also study Hardy-Littlewood type theorems for multiple trigonometric and Walsh series in L_p with Muckenhoupt weights, in the Besov space, and in BMO.