

L1-Convergence of Modified Trigonometric Sums

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Abstract : The existence of sine and cosine series as a Fourier series, their L1-convergence seems to be one of the difficult question in theory of convergence of trigonometric series in L1-metric norm. In the literature so far available, various authors have studied the L1-convergence of cosine and sine trigonometric series with special coefficients. In this paper, we present a modified cosine and sine sums and criterion for L1-convergence of these modified sums is obtained. Also, a necessary and sufficient condition for the L1-convergence of the cosine and sine series is deduced as corollaries.

Keywords : conjugate Dirichlet kernel, Dirichlet kernel, L1-convergence, modified sums

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