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Approximation of Periodic Functions Belonging to Lipschitz Classes by Product Matrix Means of Fourier Series

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Abstract : Various investigators have determined the degree of approximation of functions belonging to the classes W(L r , ξ(t)), Lip(ξ(t), r), Lip(α, r), and Lipα using different summability methods with monotonocity conditions. Recently, Lal has determined the degree of approximation of the functions belonging to Lipα and W(L r , ξ(t)) classes by using Ces`aro-N¨orlund (C 1 .Np)- summability with non-increasing weights {pn}. In this paper, we shall determine the degree of approximation of 2π - periodic functions f belonging to the function classes Lipα and W(L r , ξ(t)) by C 1 .T - means of Fourier series of f. Our theorems generalize the results of Lal and we also improve these results in the light off. From our results, we also derive some corollaries.

Keywords : Lipschitz classes, product matrix operator, signals, trigonometric Fourier approximation
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