Mittal, M. L.; Rhoades, B. E.; Mishra, Vishnu Narayan
Approximation of signals (functions) belonging to the weighted $W(L_p, \xi(t))$-class by linear operators. (English) Zbl 1126.42001

K. Qureshi [Indian J. Pure Appl. Math. 12, 1120–1123 (1981; Zbl 0475.42004)] initiated the study of the approximation of a conjugate function, conjugate to a $2p$-periodic function of class Lip$(a)$, $0 < a < 1$, by a class of Nörlund means of the conjugate Fourier series. Subsequently various authors, including the present ones, took up the extension of Qureshi’s result by successively introducing generalizations of the class Lip$(a)$ and/or the Nörlund operators. Here the authors have taken up to further their joint study of the topic. Taking somewhat a general linear operator, determined by a lower triangular matrix whose rows do not necessarily form a monotone sequence, and replacing the class Lip$(a)$ by a weighted class of functions the authors give a general theorem that incorporates their earlier results, proved jointly and severally, as well as extends the previous results of Qureshi and of some others.

Reviewer: Ganesh Datta Dikshit (Auckland)

MSC:
42A10 Trigonometric approximation
41A25 Rate of convergence, degree of approximation
40C05 Matrix methods for summability
94A12 Signal theory (characterization, reconstruction, filtering, etc.)

Keywords:
matrix operators; Nörlund transforms; conjugate Fourier series; approximation of functions of Lip-Lebesgue-weighted class

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References:


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