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ON APPROXIMATION ORDER OF FUNCTIONS BY m -SINGULAR
GEGENBAUER INTEGRALS

Abstract

In the given paper the questions of convergence order of m -singular Gegenbauer to the functions from the classes $L_{p,\mu}[-1,1]$ are studied both in characteristic points and in metric of the space $L_{p,\mu}$. Besides, Gegenbauer derivative notion of Riemann type is introduced and the asymptotic estimations of approximation of functions having Gegenbauer derivatives of Riemann type by m -singular Gegenbauer integrals are established.