

Kasperski, Andrzej**Approximation of elements of the spaces X_φ^1 and X_φ by nonlinear, singular kernels.** (English)

Zbl 0821.41021

Pr. Nauk. Uniw. Śląsk. Katowicach 1304, Ann. Math. Silesianae 6, 21-29 (1992).

Summary: Let l^φ be a Musielak-Orlicz sequence space. Let X_φ^1 and X_φ be the modular spaces of multifunctions generated by l^φ . Let $K_{w,j} : \mathbb{R} \rightarrow \mathbb{R}$ for $j = 0, 1, 2, \dots, w \in \mathbb{W}$, where \mathbb{W} is an abstract set of indices. Assuming certain singularity assumption on the nonlinear kernel $K_{w,j}$ and setting $T_w(F) = (T_w(F)(i))_{i=0}^\infty$ with $T_w(F)(i) = \{\sum_{j=0}^i K_{w,j}(f(j)) : f(j) \in F(j)\}$, convergence theorems $T_w(F) @ \gg \varphi, \mathcal{W} > F$ in X_φ^1 and $T_w(F) @ \gg d, \varphi, \mathcal{W} > F$ in X_φ are obtained.

MSC:

41A35 Approximation by operators (in particular, by integral operators)

28B20 Set-valued set functions and measures; integration of set-valued functions; measurable selections

54C60 Set-valued maps in general topology

Keywords:

Musiak-Orlicz sequence space; modular spaces of multifunctions