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Mohammad A AlQudah* (alqudahm@northwood.edu), 4000 Whiting Dr, Department of Mathematics, Midland, MI 48640, and **James R Angelos**. *Characterization of Best Approximation in Generalized Chebyshev Spaces*.

Let X be a finite set with the discrete topology and $C(X, \mathbb{R}^k)$ be the space of vector valued continuous functions from X to k -dimensional Euclidean space \mathbb{R}^k ; and let G denote the space

$$G := \text{Span}\{u^{j,d} | u^{j,d}(x) = u_{j,d}(x)e_d, j = 1, \dots, n_d, d = 1, \dots, k\} \subseteq C(X, \mathbb{R}^k)$$

with $u_{j,d} \in C(X, \mathbb{R})$, e_d , the standard basis vectors in \mathbb{R}^k , and let n_1, \dots, n_k be the dimensions of the component spaces comprising G , with $n_1 + \dots + n_k = n$.

This work is devoted to the study of best approximation of $f \in C(X, \mathbb{R}^k)$ from G in the uniform norm. In addition, we investigate the properties that characterize the best approximation. (Received September 16, 2014)