

Zbl 0662.41019**Pinkus, A.; Strauss, H.****Best approximation with coefficient constraints.**

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Let B denote a compact Hausdorff space containing at least $n + 1$ points and let $C(B)$ be the normed linear space of real-valued continuous functions on B endowed with the uniform norm $\|f\| = \max_{x \in B} |f(x)|$. Denote by U_n an n -dimensional subspace of $C(B)$. For a given $\alpha = (\alpha_1, \alpha_2, \dots, \alpha_n)$ and $\beta = (\beta_1, \dots, \beta_n)$ satisfying $-\infty \leq \alpha_i < \beta_i \leq \infty$ ($i = 1, \dots, n$) and a given basis (u_1, \dots, u_n) , set

$$U(\alpha, \beta) = \left\{ u = \sum_{i=1}^n a_i u_i : \alpha_i \leq a_i \leq \beta_i, \quad (i = 1, 2, \dots, n) \right\}.$$

The authors are interested in the problem of best approximating functions in $C(B)$ from $U(\alpha; \beta)$. A number of results, characterizing best approximants and determining when uniqueness holds, are proved.

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