Pinkus, A.

Best approximations by smooth functions.


Motivated by questions concerning $K$-functionals, U. Sattes considered the problem of approximation of a continuous function $g(x)$ on $[0,1]$ by functions whose $r$th derivative is bounded a.e. by one in absolute value. He obtained a characterization theorem and a partial uniqueness result for the best approximation. The paper under review generalizes Sattes' results to the approximation of $g(x)$ by $\int_0^1 K(x,y)h(y)\,dy$, where $h$ has $L^\infty$ norm $\leq 1$ and $K$ is a strictly totally positive kernel.

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