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Under the condition that the weight function W is positive and continuous on $[0,\infty)$ and satisfies $\frac{-\ln W(x)}{x^\alpha} \to \infty$ as $x \to \infty$ for some $\alpha > 1$, then the approximation theorem of Weierstrass is shown to hold for $f(x) \in C^0_W[0,\infty)$, the set of continuous functions for which $W(x)f(x) \to 0$ as $x \to \infty$.

Similarly, if W defined on $(-\infty,\infty)$ and is positive and continuous and satisfies $\frac{-\ln W(x)}{x^{2\alpha}} \to \infty$ as $x \to \pm\infty$ for some $\alpha > 1$, then the approximation theorem of Weierstrass is shown to hold for $f(x) \in C^0_W(-\infty,\infty)$, the set of continuous functions for which $W(x)f(x) \to 0$ as $x \to \pm\infty$.

The proofs of the above two results will be based upon a generalization by Chlodowsky of the Bernstein polynomial operators.

These results are presented in memory of Katalin Balázs 08/13/1949 - 09/07/2016, who was for 26 years my mathematical collaborator and my very devoted and very beloved wife. (Received July 27, 2017)