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Models of Stochastic Processes in $D(V,W)$ Spaces

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We consider K_σ -spaces of random variables [1] $D(V,W)$, designated by the norm

$$\|\xi\|_{V,W} = \left(\sup_{x>0} V(x)W^{-1}(P\{|\xi| > x\}) \right)^{1/2},$$

where $W = W(x), x \in R$ and $V = V(x), x \in R, W(x) > 0, V(x) > 0, x \neq 0$ are some even monotone increasing for all $x > 0$ continuous functions [2]. Basic properties of such spaces are considered. We also consider convergence of infinite sums. Properties and behavior of stochastic processes in such spaces are considered. Models that approximate stochastic processes in $D(V,W)$ with given reliability and accuracy are studied. In addition, few examples relevant to the topics above are presented.

- [1] Yu. V. Kozachenko, *Ukrainian Mathematical Journal*, **51**, (1999), No. 7, p. 1029–1043.
- [2] O. M. Moklyachuk, Yu. V. Kozachenko, *Probability theory and mathematical statistics*, **82**, (2010), p. 56–66.