A.G. ZRAZHEVSKY

The uniform Convergence in the Case of the Wrapping of Regression Class by the Polynomial Type Functions

ESC Institute for Applied System Analysis NTUU "KPI", Kyiv, Ukraine
E-mail: alex.zrazhevsky@gmail.com

The problem of functional dependence recovery of the time series on time index is considered in the case of short data retrieval. The problem of functional dependence recovery is solved by minimization of empirical risk functional $I_e(\alpha)$ under the condition of the existence of its uniform convergence on parameter to theoretical risk functional $I(\alpha)$ [1].

In this work the theorem of uniform convergence of empirical risk functional to theoretical is proved for the case of the wrapping of regression class by the polynomial type functions.

[1] V.N. Vapnik, *Estimation of dependences based on empirical data*, New York, Springer Verlag, 1982.

[2] M. Anthony, *Discrete Mathematics of Neural Networks: Selected Topics*, SIAM, 2001.