# Rekonstrukcija stohastickih procesa redovima uzorkovanja Whittakerovskog tipa

Mean square and almost sure Whittaker–type derivative sampling theorems are obtained for the class $L^\alpha(\Omega, \mathfrak{F}, \mathsf{P})$; $0 \leq \alpha \leq 2$ of stochastic processes having spectral representation, with the aid of the Weierstraß $\sigma$ function. Functions of this class are represented by interpolatory series. The results are valid for both harmonizable and stationary processes ($\alpha = 2$) as well. The formulæ are interpreted in the $\alpha$–mean sense and also in the almost sure $\mathsf{P}$ sense when the initial signal function and its derivatives (up to some fixed order) are sampled at the points of the integer lattice $\mathbb{Z}^2$. The circular truncation error is introduced and used in the truncation error analysis. Finally, sampling sum convergence rate is provided.

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