CALCUL DE LA VITESSE DE CONVERGENCE DANS LE THEOEME CENTRAL LIMITE VIS A VIS DES DISTANCES DE PMOHOROV, DUDLEY ET LEVY DANS LE CAS DE VARIABLES ALEATOIMES DEPENDANTES

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Abstract: The paper gives a general framework to estimate Dudley and Lévy’s metrics for Hilbert space valued random variables and Prohorov’s one for the $k$-dimensional distributions of an $\mathbb{R}^d$-valued process, in the case of central limit theorem for stationary and mixing random variables. The speeds of convergence obtained here are approximately $n^{-1/4}$, $n^{-1/12}$ and $k^{5/8}n^{-1/12}$, where $n$ is the length of the observed sample and with quite strong mixing hypotheses.

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