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12. Probability and Statistics

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Asymptotic Properties of Non-Linear Estimators for Some Non-Stationary Regression Models

We consider the problem of minimization of functional $F_T(x) = \frac{1}{T}\int_0^T f(t,x,\xi_t)dt$, where $\{\xi_t \in R^m,\ m \geq 1\}$ is some stationary process satisfying strong mixing condition, $x \in J$, where J is some closed subset of R^p, $p \geq 1$, function $f(x,y,z) : R^+ \times J \times R^m \to R^+$, $R^+ = [0,\infty)$. Let $x_T = \arg\min F_T(x)$. Values x_T asymptotic distribution is find and x_T strong consistity is proved.