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Ouagnina Hili* (o_hili@yahoo.fr), BP 1083 Yamoussoukro, Ivory Coast. *Hellinger Distance Estimation of Nonlinear Dynamical Systems.*

Our work deals with the minimum Hellinger distance (MHD) parameter estimation of nonlinear dynamical systems with highly correlated residuals. In order to estimate the parameter of interest, we fit the high correlated residuals by an EXPAR (EXponential AutoRegressive) time series model. Under some assumptions which ensure the stationarity, the existence of the moments of the stationary distribution and the strong mixing property of the fitted residuals, we establish the almost sure convergence and the asymptotic normality of the MHD estimates. (Received December 22, 2003)