SEMINÁRIOS

SÉRIES TEMPORAIS, ONDALETAS E DADOS FUNCIONAIS

LOCAL: **IME-USP, Sala 247 (Auditório Antônio Gilioli), Bloco A**

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HORÁRIO: **14h00**

FUNCTIONAL AUTOREGRESSIVE TIME SERIES WITH DEPENDENCE ON DERIVATIVES

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We study R^{m+1}-hyper-surface time series models with dependence on derivatives of past observations. Estimation using orthonormal series expansions of the functional parameters is presented. Product connexion and differential connexion coefficients are defined and used to reduce the functional models to algebraic systems of equations. Two prototype non-linear models are studied. Minimization of the sum of the squares of the L^2 norm of the residuals is shown to be equivalent to the minimization of the sum of squared residuals in the algebraic representation. O.L.S. estimation is applied to the systems of algebraic equations associated to these models and the expressions for the estimators are obtained. Results concerning the stability of these dynamical systems are presented. Extensions to more general settings are discussed.