A suggest Instrument to Identify a Linear Stochastic Dynamic System When it Invariant with Time[1]

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Abstract

In this research we try to treat a complex problem facing a researcher in farm of identify a linear stochastic dynamic system at invariant time. The problem is to determine the appropriate type process, thus a new instrument is suggested to identify the two type of stochastic linear dynamic models. First, Equation Error Models :Autoregressive with exogenous input model ARX and Autoregressive Moving average with exogenous input model ARMAX, second Output Error models: Output Error model and Box-Jenkins model BJ. The parameter of this models are estimated by Least Square method. The suggested instrument are examined by Simulation experiments on the four models mentioned above and the results of this identification by this way where exact to a high degree, with the relation to type and suitable order to process.

[1] For the paper in Arabic see pages (151-176).

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