DETECTING CORRELATION IN STOCK INDICES WITH NONLINEAR CROSS PREDICTION

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ABSTRACT

We present a method for detecting correlations in the stock market based on a nonlinear modeling approach. In order to find high order correlations in the daily returns, we build nonlinear models for the one step ahead prediction and use the cross prediction error as a generalized correlation measure. This method is an extention of the mixed state analysis which is used to detect weak coupling between (chaotic) dynamical systems.