Generalized Fractional Long Memory Stochastic Volatility Models and Applications in Finance

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Abstract

In recent years, the family of fractionally differenced processes has received a great deal of attention due to its flexibility in financial applications with long memory. This paper considers a class of models generated by Gegenbauer polynomials incorporating both the Long Memory (LM) and Stochastic Volatility (SV) components. The existence and uniqueness of second order solutions will be established. Various new results associated with this class will be reported. A simulation study has been added.

A potential application will be discussed to justify the usefulness of this new class in financial modelling.

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