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Multifractal Behaviors in Foreign Exchange Markets KYUNGSIK

KIM, Department of Physics, Pukyong National University, Pusan 608-737, Korea, SOO YONG KIM , GYUCHANG LIM, Department of Physics, Korea Advanced Institute of Science and Technology, Daejeon 305-701, Korea, ENRICO SCALAS, Department of Advanced Sciences and Technology, East Piedmont University, Alessandria 15100, Italy, DONG-IN LEE, Department of Environmental Atmospheric Science, Pukyong National University, Pusan 608-737, Korea — The market information and its intensity for the context of two-phase phenomenon is introduced in financial exchange markets. To find the underlying process of the formation of market information, we investigate the multifractal properties of the market information in terms of the multifractal and the detrended fluctuation analysis and also examine the higher order correlations between successive pieces of market information. Although the multifractal properties of the market information process is clearly confirmed, the simple binomial multiplicative process is not appropriate to catch its dynamics. It means that the market information process can be essentially different from the fully developed turbulence.

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