Multifractal Features in Financial Markets

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The tick dynamical behavior of the yen-dollar exchange rate using the rescaled range analysis is investigated in financial market. Multifractal Hurst exponents with the short and long-run memory effects can be obtained from the yen-dollar exchange rate transacted during twenty-three years. This exists one crossover for the Hurst exponents at charateristic time scales, while the Korean treasury bond futures has no crossover. We show that the probability distribution of the yen-dollar exchange rate is described as a non-Gaussian process of Lorentz-type. Our result is compared with that of other calculations.

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