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Asymmetric joint multifractal analysis in Chinese stock markets

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*Highlights (for review)

Highlights

1. The asymmetric joint multifractal analysis method based on statistic physics is proposed to explore the asymmetric correlation in non-stationary time series.

2. The asymmetric correlation between daily return and trading volume is discussed by asymmetric joint multifractal analysis method based on statistic physics.

3. The correlations are asymmetric multifractal. When the stock indexes are upward, the fluctuations of returns are always weaker than when they are downward, whether the trading volumes are more or less.