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Parametric Characterization of Multifractal Spectra

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We propose a fully automated algorithmic scheme to compute the f-alpha spectrum from a time series. We establish that the spectrum can be characterized using three parameters uniquely. Starting from a standard mutiscale cantor set, we evaluate analytically and numerically its f-alpha values and observe that the formalism can give information only upto two sclaes about a mutifractal set. This is verified by taking several examples and real world data sets.

Key Words: mutifractals, cantor set, f-alpha spectrum