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THE SPECTRAL ANALYSIS OF FRACTAL NOISE IN TERMS OF WIENER'S GENERALIZED HARMONIC ANALYSIS

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Although Wiener's Generalized Harmonic Analysis (GHA) provides a theory for the analysis of functions that were previously not accessible, GHA does not yield an adequate spectral analysis of large classes of functions, including nonstationary processes, and in particular, $1/f$ or fractal noise. In this presentation we investigate both a statistical and deterministic point of view of the adaptation of GHA to deal with fractal noise.