Hamilton Institute

An Investigation of the Empirical Mode Decomposition Based on Genetic Algorithm Optimization Schemes

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Abstract

Empirical mode decomposition (EMD) has lately received much attention due to many interesting features that exhibits. However it lacks a strong theoretical basis which would allow a performance analysis and hence the enhancement and optimisation of the method in a systematic way.

In this talk, an investigation of EMD is attempted in an alternative way: The interpolation points and the piecewise interpolating polynomials for the formation of the upper and lower envelopes of the signal are optimized based on a genetic algorithm framework revealing important characteristics of the method which where previously hidden. As a result, novel directions for both the performance enhancement and the theoretical investigation of the method are unveiling.

Venue: Seminar Room, Hamilton Institute, Rye Hall, NUI Maynooth

Time: 1.00 - 2.00pm (followed by tea/coffee)

Travel directions are available at www.hamilton.ie

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