Pure Mathematics Seminar

Harmonic Analysis of the Empirical Mode Decomposition Method

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N. Huang et al in 1998 introduced the Empirical Mode Decomposition Method (EMD) and the Huang Hilbert Transform (HHT) to analyze nonstationary and nonlinear signals. Although the method lacks strong theoretical background it turned out to be very effective in a variety of applications. The development of the theory of EMD, including convergence and alternative characterization of the decomposition, lead to many new results. The major advance was the introduction of the Synchrosqueezed wavelet transforms: An empirical mode decomposition-like tool (2011). The method was considered departure from the classical Fourier series but all of the attempts to analyze it theoretically either have failed or resulted in developing new methods. In the talk we describe the method and show that the original EMD is the well known Fourier series expansion but in the context of the generalized Fourier series with varying phase.

Date: **Friday, November 6, 2015**
Time: **11:00 am**
Place: **Edinburg:** MAGC 1.302, **Brownsville:** UBLB 3.102

The talk will delivered live at the Edinburg campus and will be streamed to the Brownsville campus

Coffee and cookies will be served.

For further information or for special accommodations, please contact Dr. Sergey Grigorian via email at [sergey.grigorian@utrgv.edu], or Dr. Alexey Garber at [alexey.garber@utrgv.edu], or visit the webpage [http://blue.utb.edu/dg2012/puremathseminar.html].