On Polynomially Harmonisable Processes

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Abstract

Polynomially Harmonisable processes are those that admit sequences of time-space harmonic polynomials, that is, polynomials which become martingales when evaluated along the trajectory of the process. Standard Brownian Motion is classical example with 2-variable Hermite polynomials being time-space harmonic. In this talk, a brief survey of some general results on polynomially harmonisable processes will be presented. A necessary and sufficient condition for certain classes of Levy processes to be uniquely determined by a finite number of time-space harmonic polynomials will be described.