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On the works of Kiyosi Itô and stochastic analysis

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Abstract. A common feature that can be consistently found in the works of Professor Kiyosi Itô is a leap from the analysis in distribution family level toward the analysis and synthesis in sample paths level, which has turned analytic descriptions into thoroughly stochastic ones.

Keywords and phrases: Brownian motion, Lévy–Itô decomposition, Itô integral, Itô formula, stochastic differential equation, Wiener–Itô decomposition, one-dimensional diffusion, excursions, stochastic geometry, stochastic control, stochastic finance

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