



PIMS / AMI Seminar

Friday, November 18, 2016

3:00 p.m.

CAB 657



“Strong law of large numbers for super-critical branching Gaussian processes”

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Abstract

We consider a super-critical branching particle system in which the combined trajectory of each particle and its ancestors follows a path Gaussian process. Unlike branching diffusion systems, such model is not necessary Markov. Assuming that the offspring distribution has finite second moment and some mild conditions on the underlying Gaussian process, we show a strong law of large numbers with the limit object characterized in terms of asymptotic behavior between the mean and variance of the Gaussian process. Long memory processes, like fractional Brownian motions and fractional Ornstein-Uhlenbeck processes with Hurst parameter greater than $1/2$, as well as rough processes, like fractional processes with Hurst parameter smaller than $1/2$ are included as important examples. Our techniques include moment computations and conditional probabilities. This is a joint work with Mike Kouritzin and Deniz Sezer.

Refreshments will be served in CAB 649 at 2:30 p.m.