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Reversibility of Interacting Fleming-Viot Processes

The Fleming–Viot process is mathematics model in population genetics. It is a probability-measure-valued Markov process describing the evolution of the relative frequencies of different allelic types in a large population which undergoes possible mutation, selection, and recombination. The interacting Fleming–Viot process is a countable collection of Fleming–Viot processes that interact through migration.

The reversibility for Fleming–Viot processes is well understood. In this talk we are going to show that the interacting Fleming–Viot process can never be reversible when both migration and mutation are nontrivial.