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Conditional Distribution of Independent Brownian Motions to Event of Coalescing Paths

Abstract

In the talk, we will consider a family of independent real-valued Brownian motions starting at distinct points and will be interested in the description of the conditional distribution of this family to the event that trajectories coalesce, which is of probability zero. We will present a general approach to construct a conditional probability to events of measure zero and will apply it first when the above-mentioned family is finite and then when the family is infinite. In both cases, it leads us to the distribution of a modified massive Arratia flow as the conditional distribution. This is joint work with Victor Marx.