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## Local times of Brownian motion indexed by the Brownian tree

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Brownian motion indexed by the Brownian tree appears in the asymptotics of many models of combinatorics or statistical physics, and is also closely related to super-Brownian motion. We consider the process of local times of (one-dimensional) Brownian motion indexed by the Brownian tree and we show that, although this process is not Markov, the pair formed by the local time and its derivative is a Markov process. In a work in collaboration with Ed Perkins, we prove that this pair satisfies a stochastic differential equation whose drift involves the classical Airy function. This is an analog of the well-known Ray-Knight theorems for linear Brownian motion.

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