Multidimensional Yamada-Watanabe theorem and its applications to particle systems

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Résumé en anglais	We prove a multidimensional version of the Yamada-Watanabe theorem, i.e., a theorem giving conditions on coefficients of a stochastic differential equation for existence and pathwise uniqueness of strong solutions. It implies an existence and uniqueness theorem for the eigenvalue and eigenvector processes of matrix-valued stochastic processes, called a “spectral” matrix Yamada-Watanabe theorem. The multidimensional Yamada-Watanabe theorem is also applied to particle systems of squared Bessel processes, corresponding to matrix analogues of squared Bessel processes, Wishart and Jacobi matrix processes. The β-versions of these particle systems are also considered.
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