

## Mild Solutions of Quantum Stochastic Differential Equations

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### Abstract

We introduce the concept of a mild solution for the right Hudson-Parthasarathy quantum stochastic differential equation, prove existence and uniqueness results, and show the correspondence between our definition and similar ideas in the theory of classical stochastic differential equations. The conditions that a process must satisfy in order for it to be a mild solution are shown to be strictly weaker than those for it to be a strong solution by exhibiting a class of coefficient matrices for which a mild unitary solution can be found, but for which no strong solution exists.

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