On the Stochastic Integral Equations with Non-lipschitz Coefficients

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Abstract

Consider the stochastic integral equation (S.I.E.) where f satisfies some non-Lipschitz condition and H,Z are F_t-semimartingales, continuous or discontinuous, on some probability space $(\Omega, F, \{F_t\}_{t \in R_+}, P)$. We prove that if f satisfies Condition H_1 or H_2 (defined in Sec. 0), then both the existence and the uniqueness of the solutions of 1 hold.