EUROPEAN OPTION PRICING UNDER A CLASS OF FRACTIONAL MARKET

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Abstract: We study the price of European contingent claim in a class of fractional Black-Scholes market. The prices of assets in this market follow a Wick-Ito stochastic differential equation driven by the fractional Brownian motion, where market coeffcients are deterministic functions. The pricing formula of European call option is explicitly derived. Our method uses the stochastic calculus of the fractional Brownian motion. A result about fractional Clark derivative is obtained.