PRICING PERPETUAL AMERICAN OPTIONS UNDER STOCHASTIC VOLATILITY

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ABSTRACT
Against a sizeable movement with unpredictable direction, strangle is a option trading strategy that the traders use in order to reduce the risk of loss by simultaneous trading put and call options with different strike prices but with the same expiration date and underlying assets. Especially, a perpetual American strangle option is a strangle option of which maturity is not limited and it can be exercised at any time during the term of the arrangement by a option holder. Pricing perpetual American Strangle options under stochastic volatility model can be mathematically classified the free boundary problem with two optimal exercise boundaries. In this paper, we investigate the price of a perpetual American strangle options under a stochastic volatility model with fast mean reversion by means of the asymptotic analysis technique.

REFERENCES