

# A Numerical Approach for the American Call Option Pricing Model

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We present a numerical approach of the free boundary problem for the Black-Scholes equation for pricing the American call option on stocks paying a continuous dividend. A fixed domain transformation of the free boundary problem into a parabolic equation defined on a fixed spatial domain is performed. As a result a nonlinear time-dependent term is involved in the resulting equation. Two iterative numerical algorithms are proposed. Computational experiments, confirming the accuracy of the algorithms are discussed.