AREA ESTIMATION BETWEEN THE EARLY EXERCISE BOUNDARIES FOR THE AMERICAN PUT OPTION WITH DIFFERENT LOCAL VOLATILITIES

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An estimate of the area between the early exercise boundaries is established for the American put option with different local volatility functions through the uniform distance between the volatilities.
The constant factor on the right-hand side of the estimate is given in explicit form.
The derivation of the estimate is based on the detailed analysis of the related parabolic obstacle problem with different principal parts in the corresponding differential operator.