

Volatility Function, 3 options, time independent

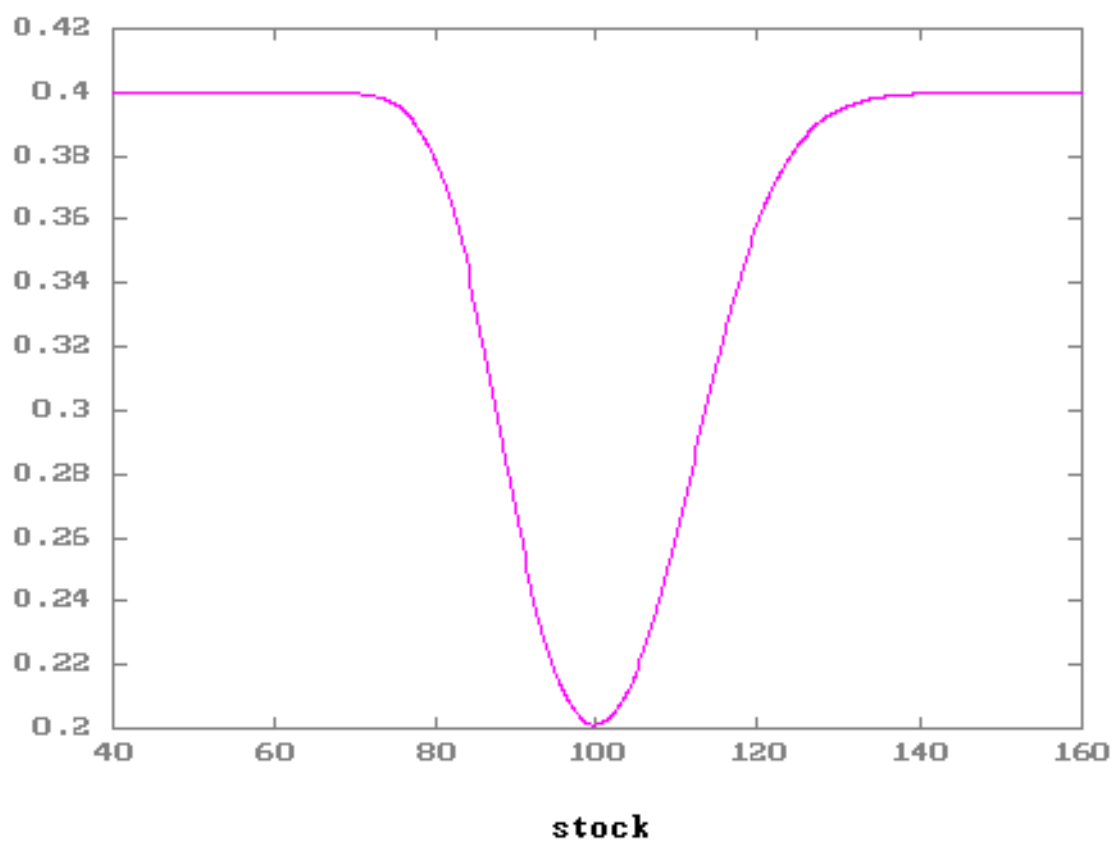


Figure 1: Volatility Function $U=0.01, 0.09, 0.01$

$T1=0.16$	$C1=100$	$U1=0.09$
$T2=0.16$	$C2=110$	$U2=0.01$
$T3=0.16$	$C3=90$	$U3=0.01$

Option Price - BS Price, 3 options, time independent

$K1=100$, $V1=0.090$, $T1=0.16$, $X0=100$, $v=0.20$, $\text{Sigma}=-0.2$, $\text{Gamma}=0.5$

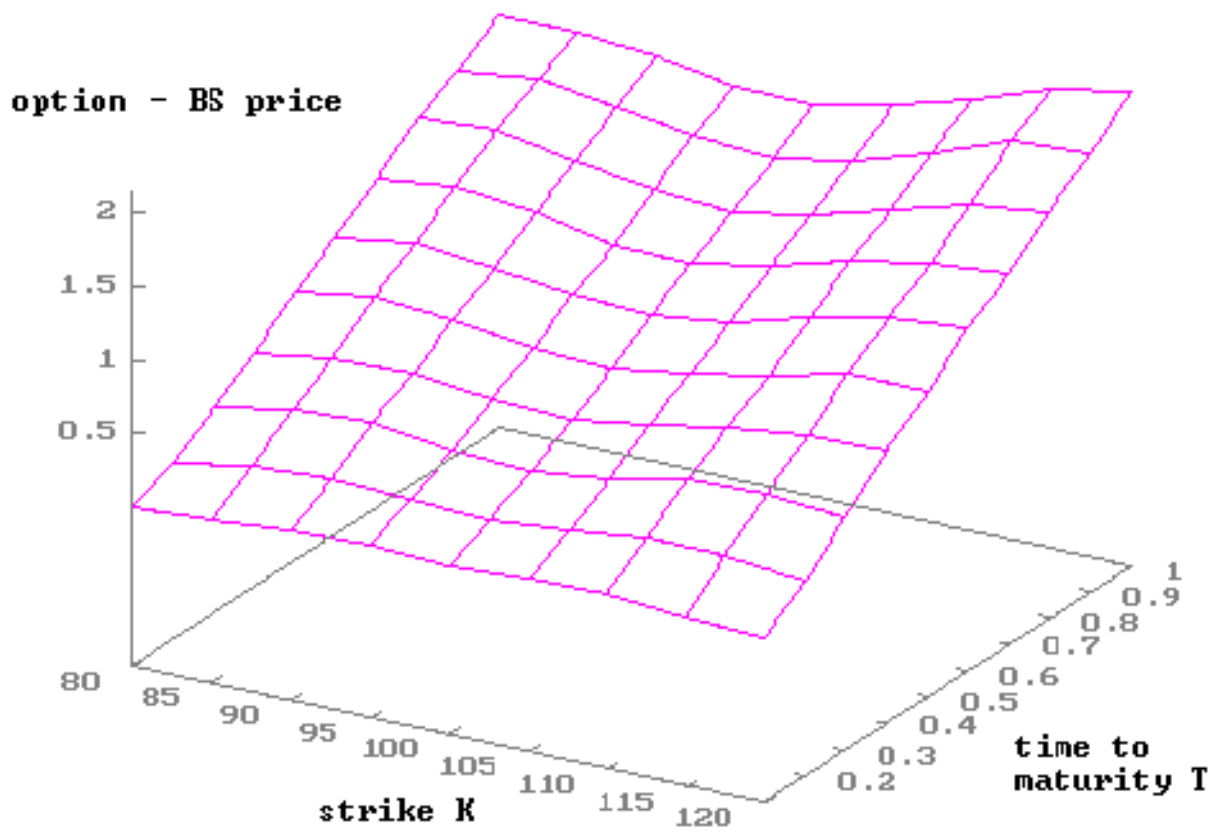


Figure 2: Option minus Black-Scholes Price

$T1=0.16$	$C1=100$	$V1=0.09$
$T2=0.16$	$C2=110$	$V2=0.01$
$T3=0.16$	$C3=90$	$V3=0.01$

Implied Volatility, 3 options, time independent

$K1=100$, $V1=0.090$, $T1=0.16$, $X0=100$, $\nu\nu=0.20$, $\text{Sigma}=-0.2$, $\text{Gamma}=0.5$

implied volatility

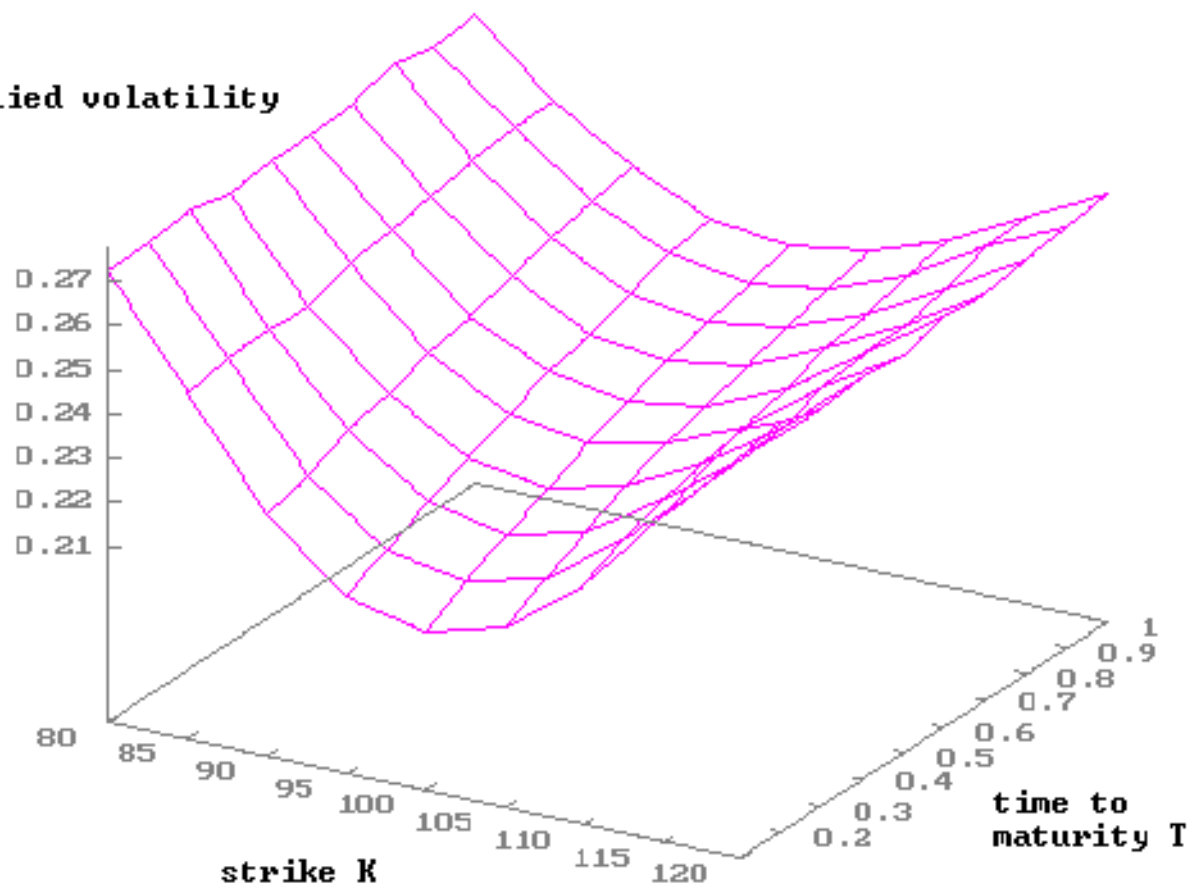


Figure 3: Implied Volatility $V=0.01, 0.09, 0.01$

$T1=0.16$	$C1=100$	$V1=0.09$
$T2=0.16$	$C2=110$	$V2=0.01$
$T3=0.16$	$C3=90$	$V3=0.01$

Volatility Function, 3 options, time independent

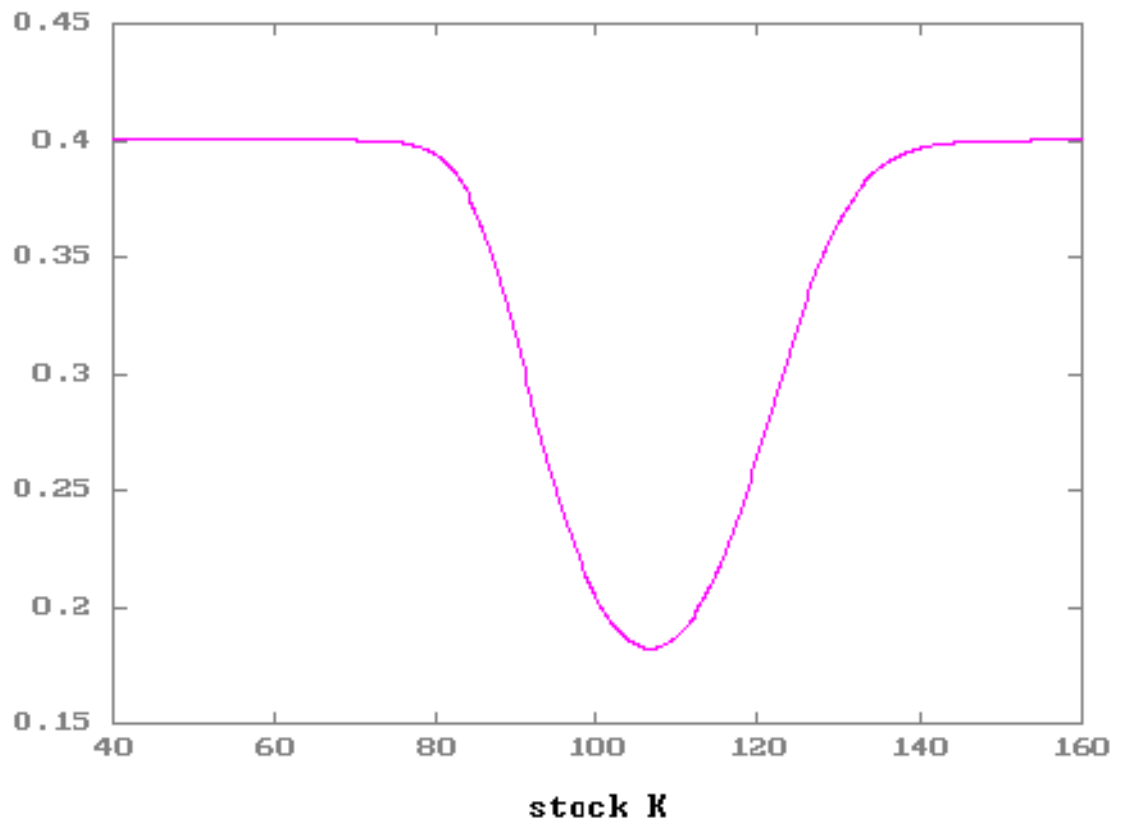


Figure 4: Volatility Function $U=0.001, 0.05, 0.09$

$T1=0.16$	$C1=100$	$U1=0.05$
$T2=0.16$	$C2=110$	$U2=0.09$
$T3=0.16$	$C3=90$	$U3=0.001$

Implied Volatility, 3 options, time independent

$K1=100$, $V1=0.050$, $T1=0.16$, $X0=100$, $\nu\nu=0.20$, $\text{Sigma}=-0.2$, $\text{Gamma}=0.5$

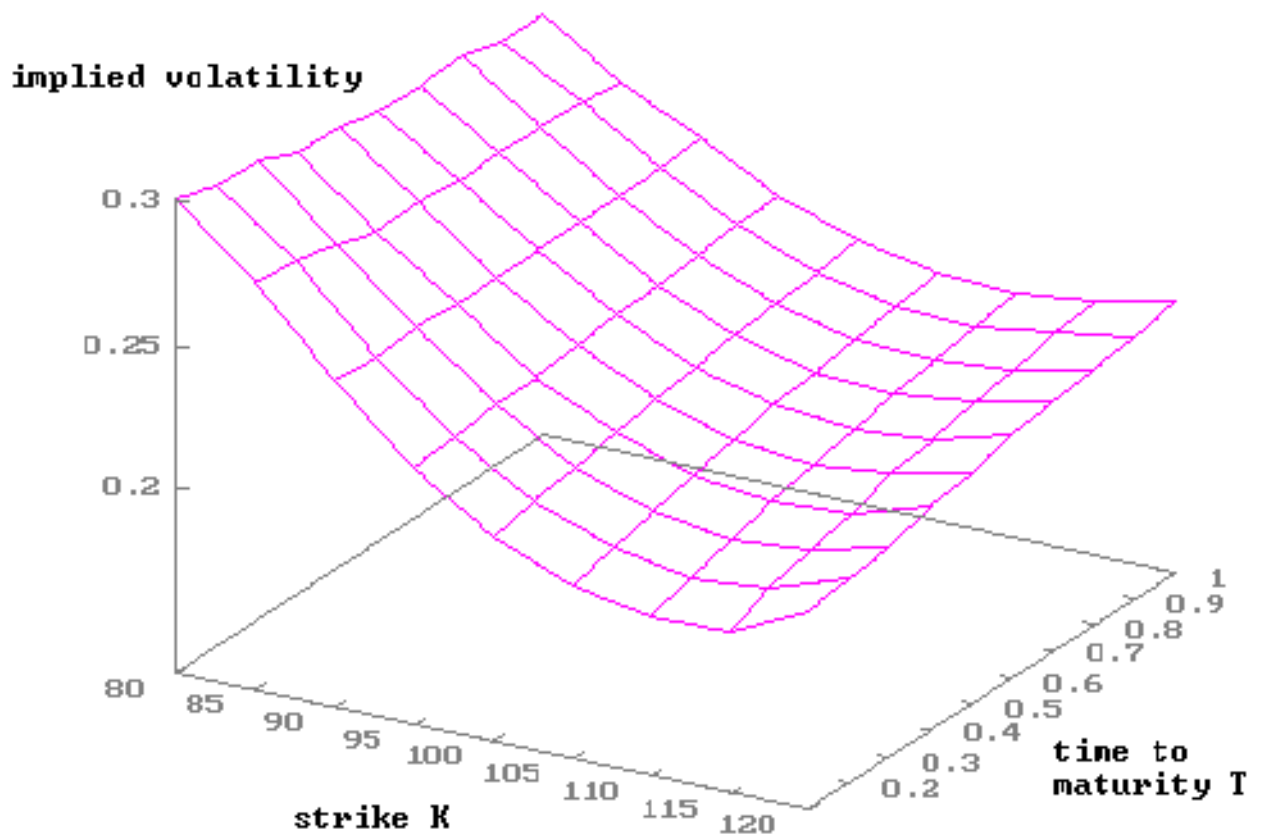


Figure 5: Implied Volatility $U=0.001, 0.05, 0.09$

$T1=0.16$	$C1=100$	$V1=0.05$
$T2=0.16$	$C2=110$	$V2=0.09$
$T3=0.16$	$C3=90$	$V3=0.001$

Implied Volatility, 3 options, time independent

$K1=100$, $V1=0.050$, $T1=0.16$, $X0=100$, $\nu\nu=0.20$, $\text{Sigma}=-0.2$, $\text{Gamma}=0.5$

implied volatility

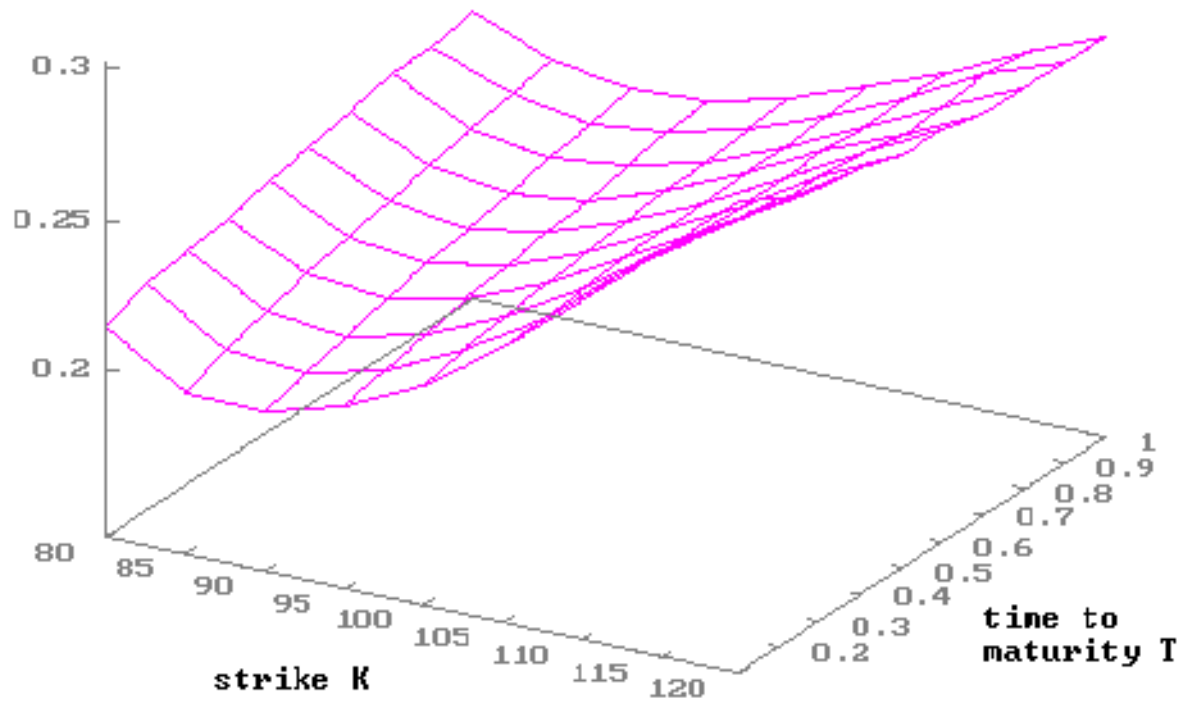


Figure 6: Implied Volatility $V=0.09, 0.05, 0.001$

$T1=0.16$	$C1=100$	$V1=0.05$
$T2=0.16$	$C2=110$	$V2=0.001$
$T3=0.16$	$C3=90$	$V3=0.09$

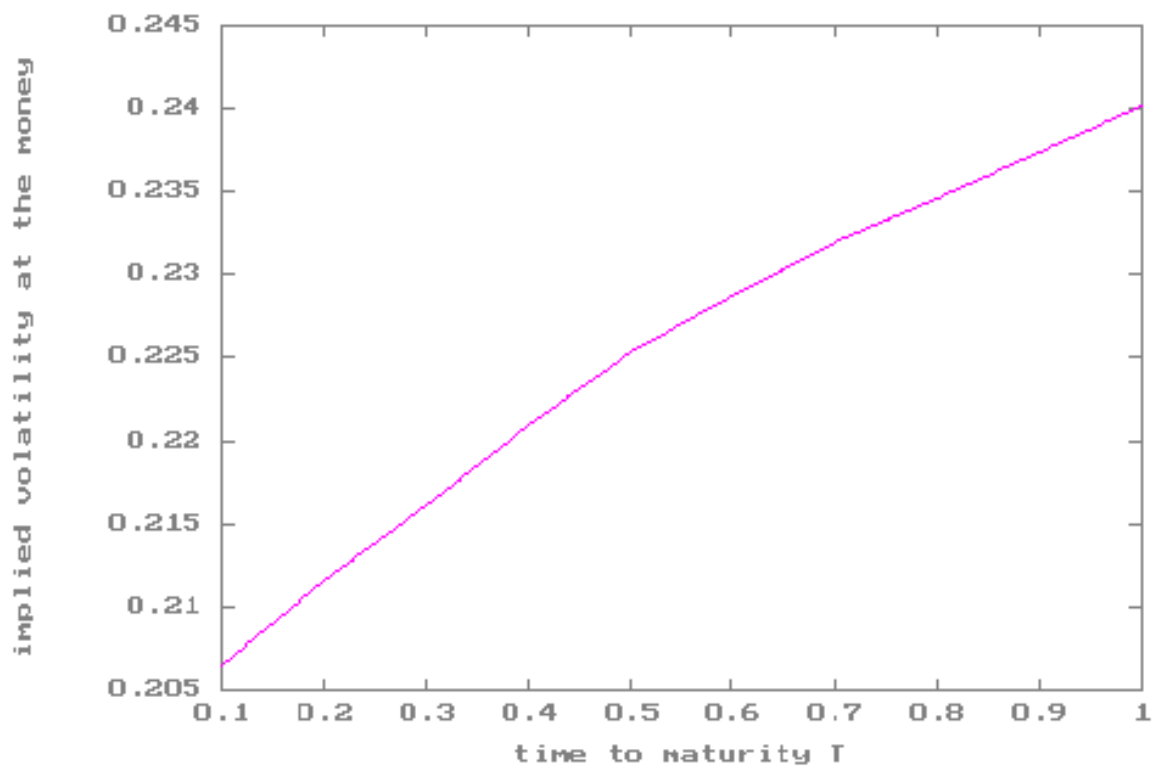


Figure 7: Implied volatility at the money, $U=0.01, 0.09, 0.01$

T1=0.16 C1=100 U1=0.09

T2=0.16 C2=110 U2=0.01

T3=0.16 C3= 90 U3=0.01