

Pricing Options with FFTs

This application calculates the price of a European call option with:

- [FFTs](#) using the approach outlined in the *Option Valuation Using the Fast Fourier Transform* (Carr & Madan).
- The analytical solution using the [BlackScholesPrice](#) command.

Parameters	
Stock price	$S_0 =$ <input type="text" value="110"/>
Strike price	$K =$ <input type="text" value="100"/>
Risk-free interest rate	$r =$ <input type="text" value="0.05"/>
Dividend rate	$q =$ <input type="text" value="0.03"/>
Time to maturity	$T =$ <input type="text" value="4"/>
Volatility	$\sigma =$ <input type="text" value="0.35"/>
Fineness of integration grid	$N =$ <input type="text" value="2^8"/>
Integrability parameter	$\alpha =$ <input type="text" value="3"/>

Pricing Algorithm and Results	
<div>33.1253534231612</div> <div>FFT Price</div>	<div>33.12906368</div> <div>Analytical Price</div>