

F10FTGAUSGS

Complex Fourier transformation of Gauss function for two values of a and for general Fourier Transformation . The maximum is at $i = 0$. The FT of the FT is also calculated.

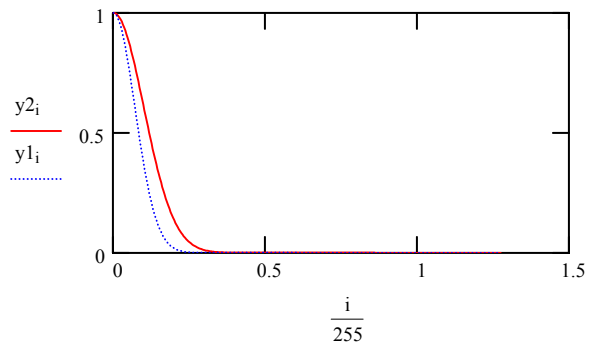
Original function

$i := 0..325$ $A := 1$

$$y1_i := A \cdot e^{-a \cdot \left[\left(\frac{i}{255} \right)^2 \right]} \quad y2_i := A \cdot e^{-aa \cdot \left[\left(\frac{i}{255} \right)^2 \right]}$$

Fourier transform

$c1 := \text{cfft}(y1)$
 $N := \text{last}(c1)$ $N = 325$
 $j := 0..N$
 $c2 := \text{cfft}(y2)$
 $N := \text{last}(c2)$ $N = 325$
 $j := 0..N$

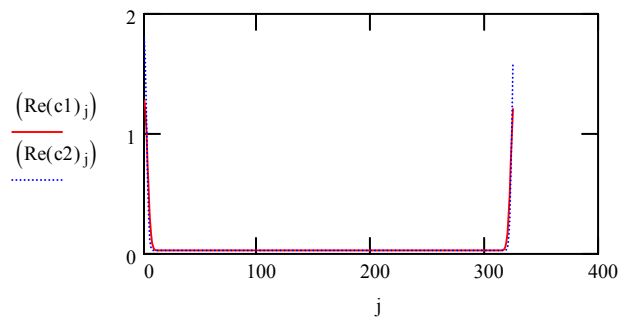


Parameter a

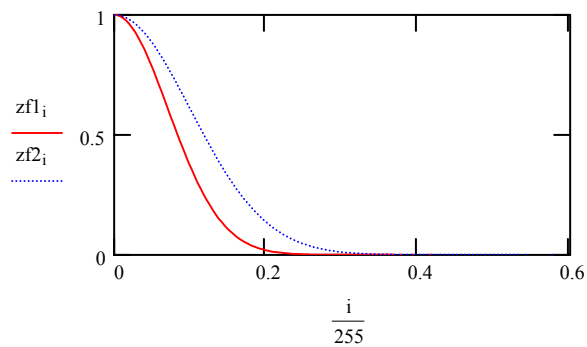
$a \equiv 100$ $aa \equiv 50$

Fourier transform (inverse) of Fourier transform

$zf1 := \text{icfft}(c1)$
 $N2 := \text{last}(zf1)$ $N2 = 325$
 $zf2 := \text{icfft}(c2)$
 $N2 := \text{last}(zf2)$ $N2 = 325$



$k := 0..N2$



The coordinate is again $i/255$