

F9FTGAUSS **Complex Fourier transformation of Gauss function for two values of a and for Fast Fourier Transformation .**
The maximum is at i = 0. The FT (inverse) of the FT is also calculated.

Original function

i := 0 .. 255 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 := cfft(y1)

N := last(c1) N = 255

j := 0 .. N

c2 := cfft(y2)

N := last(c2) N = 255

j := 0 .. N

Parameter a a ≡ 100

aa ≡ 50

**Fourier transform (inverse)
of Fourier transform**

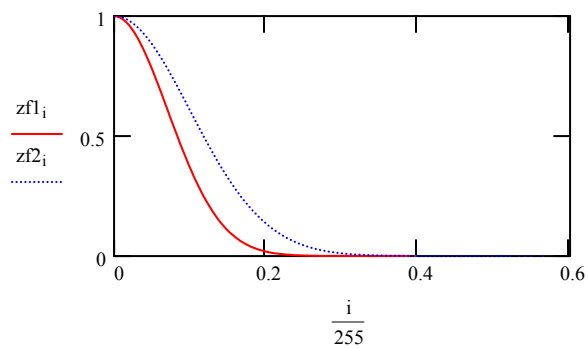
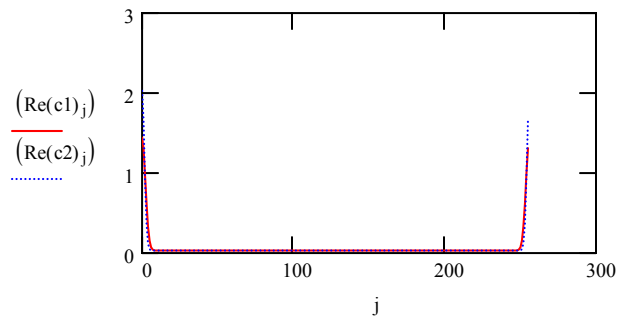
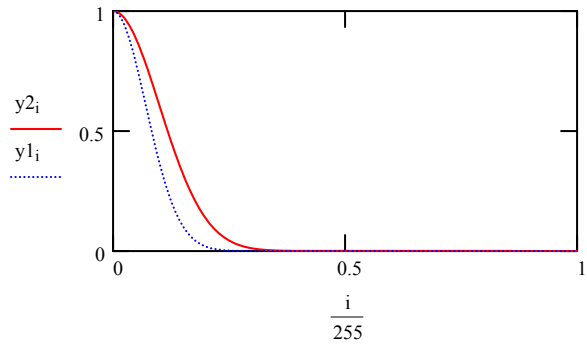
zf1 := icfft(c1)

N2 := last(zf1) N2 = 255

zf2 := icfft(c2)

N2 := last(zf2) N2 = 255

i := 0 .. N2



The coordinate is
again i/255