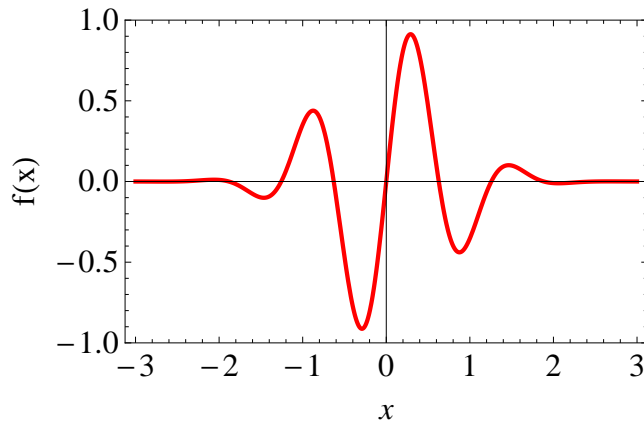


Mathematica

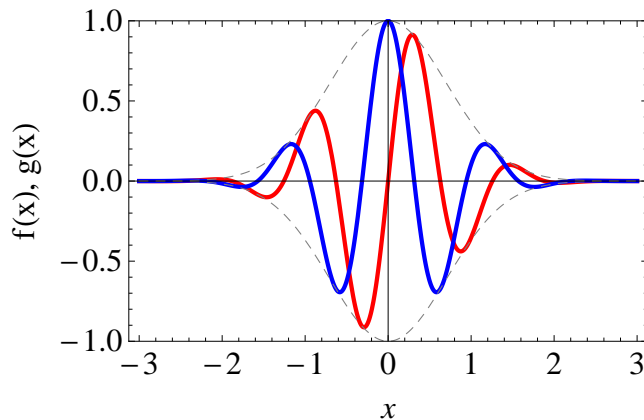
Zeichne die Funktion $f(x) = \text{Sin}(5x) e^{-x^2}$

```
Plot[Sin[5 x] Exp[-x^2], {x, -3, 3}, FrameLabel -> {x, "f(x)"},  
PlotRange -> {Automatic, {-1, 1}}, PlotStyle -> {Thick, Red}, Frame -> True, LabelStyle -> 15]
```



Zeichne die Funktionen $f(x) = \text{Sin}(5x) e^{-x^2}$, $g(x) = \text{Cos}(5x) e^{-x^2}$ und die Einhüllende

```
plt = Plot[{Sin[5 x] Exp[-x^2], Cos[5 x] Exp[-x^2], Exp[-x^2], -Exp[-x^2]}, {x, -3, 3},  
FrameLabel -> {x, "f(x), g(x)"}, PlotRange -> {Automatic, {-1, 1}}, PlotStyle ->  
{Thick, Red}, {Thick, Blue}, {Dashed, Gray}, {Dashed, Gray}, Frame -> True, LabelStyle -> 15]
```



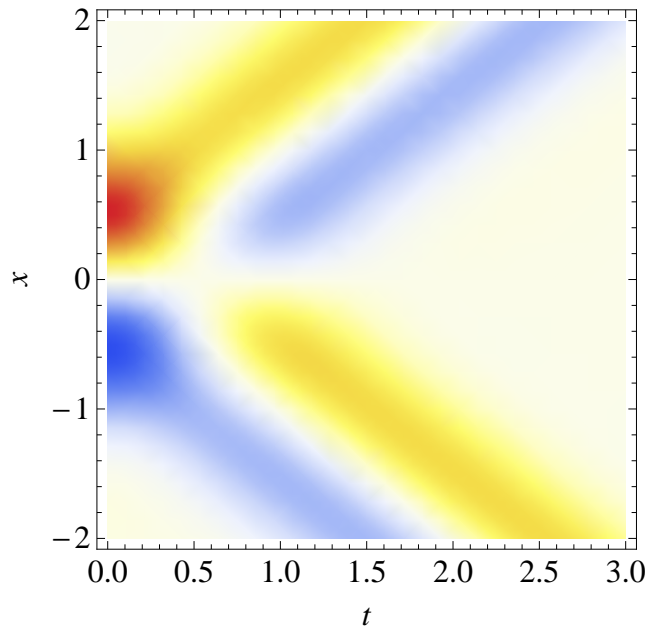
Bilder speichern

```
Export["plot.pdf", plt]
```

plot.pdf

Dichteplot einer Lösung der Wellengleichung

```
dplt = DensityPlot[Sin[2 (x - t)] Exp[-(x - t)2] + Sin[2 (x + t)] Exp[-(x + t)2], {t, 0, 3},  
{x, -2, 2}, FrameLabel -> {t, x}, LabelStyle -> 15, ColorFunction -> "TemperatureMap"]
```



Bilder speichern

```
Export["dplot.jpg", dplt, ImageSize -> 500]
```

dplot.jpg