

Consider equation (5.32).

$$P(G) = \left| \int_{-\infty}^{\infty} g^*(x) f(x) dx \right|^2 \quad (5.32)$$

If  $f(x) = g(x)$  then

$$P(G) = \left| \int_{-\infty}^{\infty} f^*(x) f(x) dx \right|^2 = 1$$

which is the highest probability.