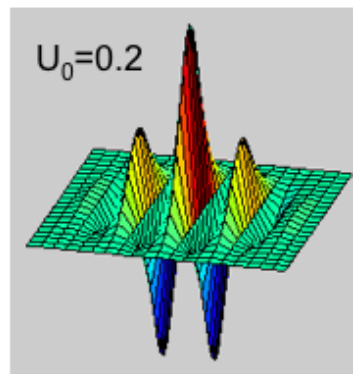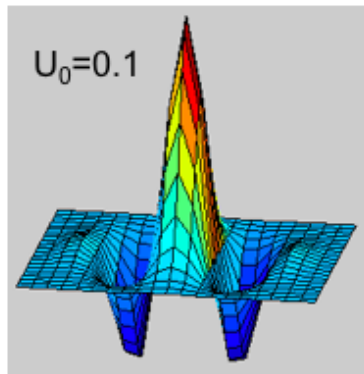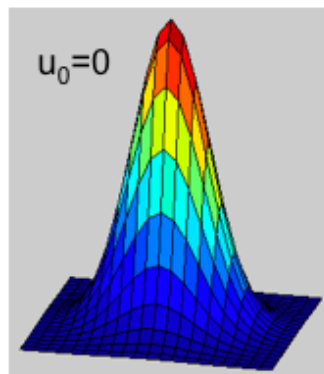$$\psi_c(x,y) = e^{-\frac{x^2+y^2}{2\sigma^2}}\cos(2\pi u_0 x)$$

$$\psi_s(x,y) = e^{-\frac{x^2+y^2}{2\sigma^2}}\sin(2\pi u_0 x)$$