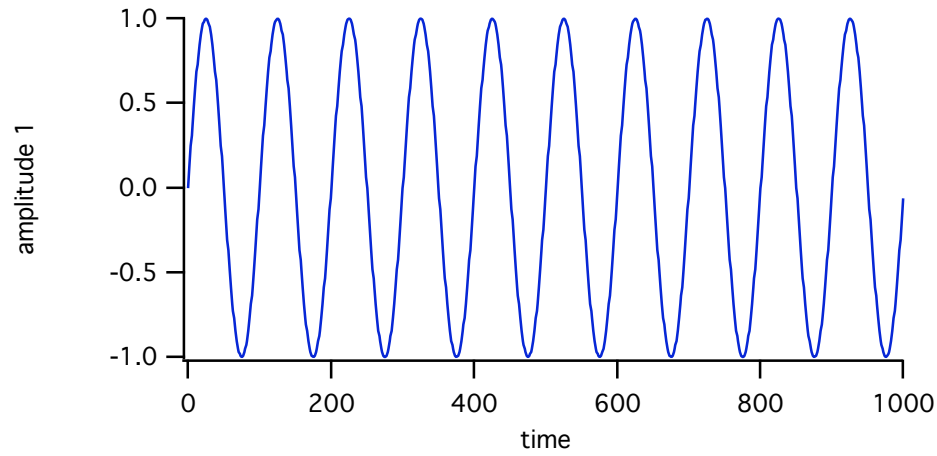
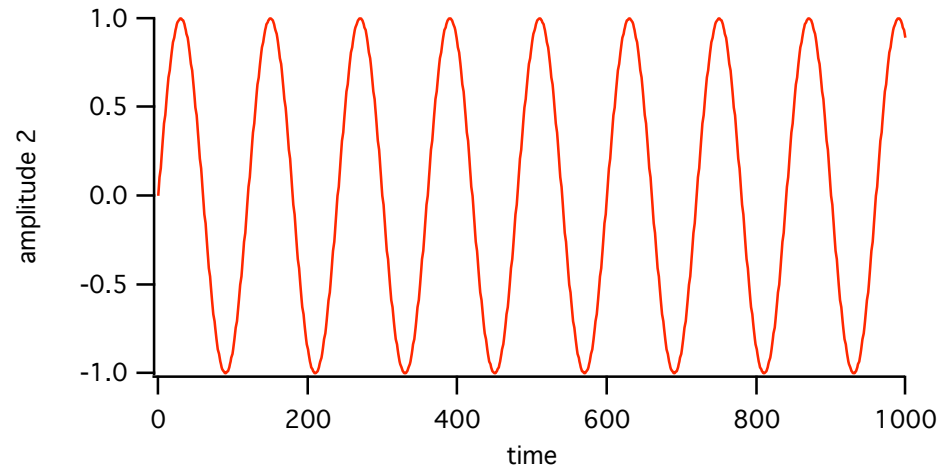


# Schwebung (engl. Beat)

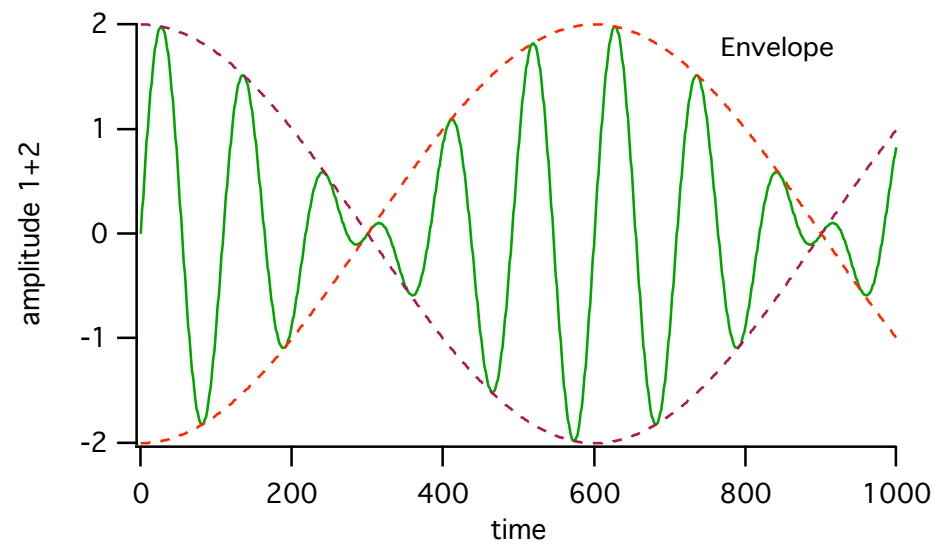


Wellen am Ort  $x=0$

$$u_1(t) = u_o \sin(\omega_1 t)$$



$$u_2(t) = u_o \sin(\omega_2 t)$$



$$u_1 + u_2 = 2u_o \sin\left(\frac{\omega_1 + \omega_2}{2} \cdot t\right) \cdot \cos\left(\frac{\omega_1 - \omega_2}{2} \cdot t\right)$$