

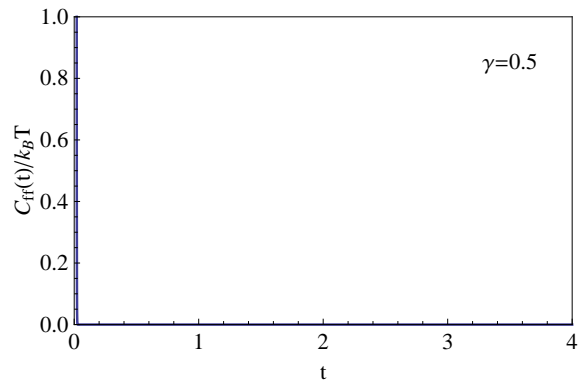
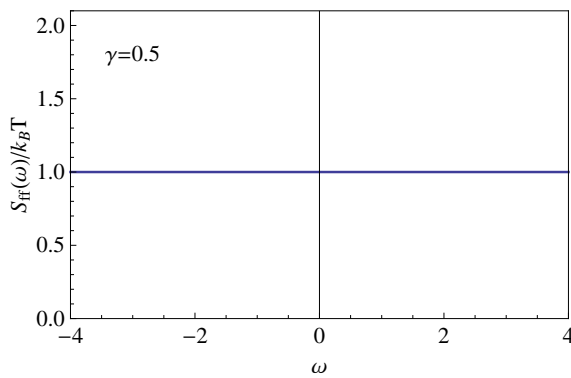
# Attenuation without memory [nln21]

Langevin equation for Brownian motion:

$$m \frac{dv}{dt} + \gamma v = f(t).$$

Random force (uncorrelated noise):

$$S_{ff}(\omega) = 2\gamma k_B T, \quad C_{ff}(t) = 2\gamma k_B T \delta(t).$$



Stochastic variable (velocity):

$$S_{vv}(\omega) = \frac{2\gamma k_B T}{\gamma^2 + m^2 \omega^2}, \quad C_{vv}(t) = \frac{k_B T}{m} e^{-(\gamma/m)t}.$$

