a) h included inside $f(x)$ (i.e. h is a *threshold* for firing rate function $f(x)$):

$$\frac{\partial u(x,t)}{\partial t} = -u(x,t) + \int_{\Omega} w(x-y) f(u(y,t) - h) \mathrm{d}y + S(x,t)$$

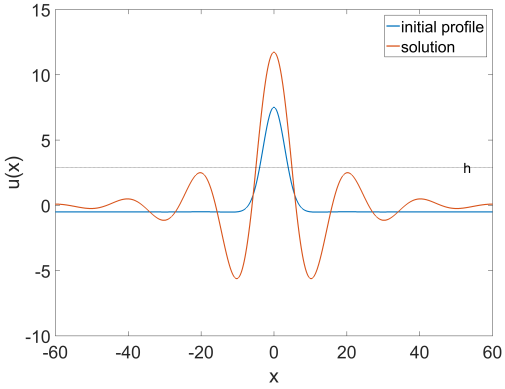

Figure 1: h included in $f(x)$

b) h is a constant input appplied to the entire neural field:

$$\frac{\partial u(x,t)}{\partial t} = -u(x,t) + \int_{\Omega} w(x-y) f(u(y,t)) \mathrm{d}y + S(x,t) - h$$

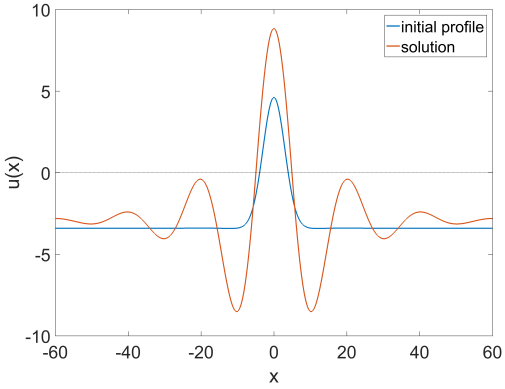

Figure 2: h applied to entire field