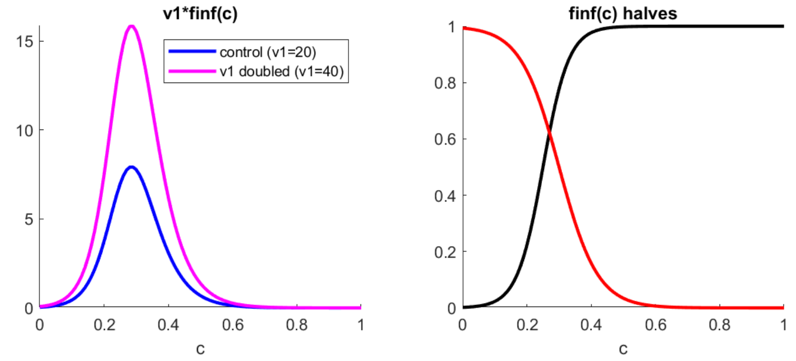
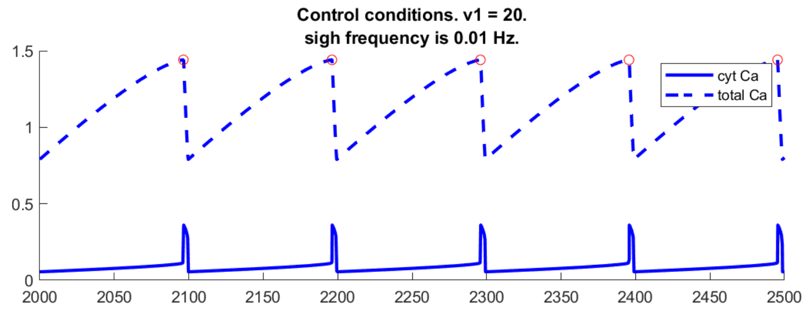
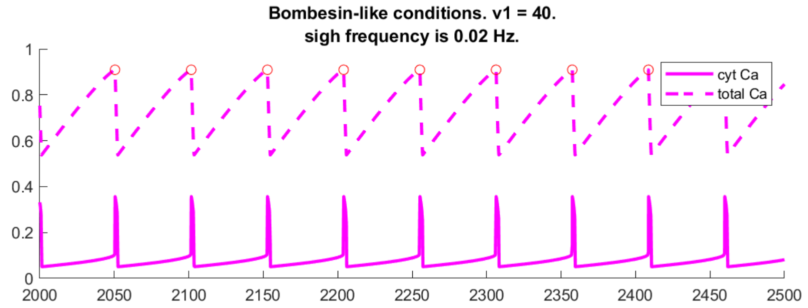
Closed Ca^{2+} sub-system
Increasing peak ER Ca^{2+} efflux via simulated application of NMB

$$\frac{dc}{dt} = \left[v_1 f_\infty(c) + v_2 \right] [c_{er} - c] - \frac{v_3 c^2}{k_3^2 + c^2} + j_0 - \frac{v_4 c^4}{k_4^4 + c^4}$$

$$\frac{dc_{tot}}{dt} = j_0 - \frac{v_4 c^4}{k_4^4 + c^4}$$

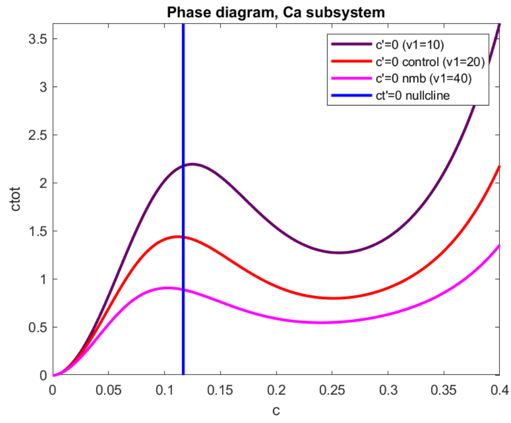






Doubling v1 (peak Ca^2+) doubles sigh rhythm frequency

What is v_1 changing in the model?
Observing the nulc lines in the phase diagram.



Observing the bifurcation diagram with v_1. Note, we needed to scale cyt. Ca dynamics by 1/10.