Quiz 4.5: Input Current

Short Current Pulses

0 points possible (ungraded)
In a 2-dimensional neuron model,

$$\tau \frac{du}{dt} = F(u,w) + RI(t)$$

$$\tau \frac{dw}{dt} = G(u,w)$$

the effect of a delta current pulse can be analyzed

- [ ] by moving the u-nullcline vertically upward
- [ ] by moving the w-nullcline vertically upward
- [ ] as a potential change in the stability or number of the fixed point(s)
- [ ] as a new initial condition ✔
- [x] by following the flow of arrows in the appropriate phase plane diagram ✔

✖

Submit You have used 1 of 1 attempt

Answers are displayed within the problem

Constant Current

0 points possible (ungraded)
In a 2-dimensional neuron model,

$$\tau \frac{du}{dt} = F(u,w) + RI(t)$$

$$\tau \frac{dw}{dt} = G(u,w)$$

the effect of a constant current pulse can be analyzed

- [ ] by moving the u-nullcline vertically upward (a slight deformation of the nullcline is possible) ✔
- [x] by moving the u-nullcline vertically upward (any deformation of the nullcline is excluded)
- [ ] by moving the w-nullcline vertically upward
- [x] as a potential change in the stability or number of the fixed point(s) ✔
- [ ] as a new initial condition
- [x] by following the flow of arrows in the appropriate phase plane diagram ✔

✖