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| Templates | Settings | Figure |
| T1 | 20 x 0.5  ED halved  9 comps  Z = -0.85 All  180s total | Fig 1; Fig 2; Fig 3; Fig 4 |
| T1\_v2 | Run on T1, just left to run for 350s |  |
| T2 | 20 x 0.5  ED halved  9 comps  Z = -0.45 All | Fig 3; Fig 4 |
| T3 | 20 x 0.5  ED halved  9 comps  Z = -1.25 All | Fig 3; Fig 4 |
| T4 (on BEAST) | 20 x 0.5  ED halved  9 comps  Z = -0.45 (8) | Fig 4 |
| T4v2 | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  #sim.set\_z("Comp8", z=-0.65, fixed\_osm=True)  # 2) SET SIMULATION SETTINGS  sim.set\_electrodiffusion\_properties(ED\_on=True, diff\_constant\_dict={"na": (1.33 / 2) \* 1e-7, "k": (1.96 / 2) \* 1e-7,  "cl": (2.03 / 2) \* 1e-7, "x": 0})  sim.set\_external\_ion\_properties()  sim.set\_atpase\_static(static\_atpase=True)  sim.set\_sa\_static(static\_sa=True)  sim.set\_zflux(comps=["Comp8"], start\_t=1, end\_t=2, z\_end=-0.65, fixed\_osm=True)  total\_t = 60  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) | Fig 4 |
| T5 (on STORM) .. kind of the same as Exp2-1 | 20 x 0.5  ED halved  9 comps + SOMA  Z = -1.25 (8) | Fig 4 |
| T5v2 | import simulator3  file\_name = "T5v2"  # 1) DEFINE SIMULATOR CLASS AND ADD COMPARTMENTS sim = simulator3.Simulator(file\_name)  sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False) sim.set\_z("Comp8", z=-1.05, fixed\_osm=True)  # 2) SET SIMULATION SETTINGS  sim.set\_electrodiffusion\_properties(ED\_on=True, diff\_constant\_dict={"na": (1.33 / 2) \* 1e-7, "k": (1.96 / 2) \* 1e-7,  "cl": (2.03 / 2) \* 1e-7, "x": 0})  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_zflux(comps=["Comp0(Soma)"], start\_t=1, end\_t=2, z\_end=-0.65, fixed\_osm=True) total\_t = 60 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) #sim.set\_hh\_on(comp="Comp0(Soma)", t\_on=0) sim.run\_simulation() print("fin")   #sim.add\_synapse("Comp1", "Excitatory", start\_t=0.5, duration=5 \* 1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) # sim.add\_current("Comp9","Excitatory",start\_t=10e-3,duration=1e-3, current\_A=0.1e-9, # total\_t=total\_t,frequency=1)  # sim.set\_xflux(comps=["Comp8"], start\_t=120, end\_t=180, z=-0.85, flux\_rate= |  |
| T6\_noHH (on laptop) | 20 x 0.5  ED halved  9 comps+ SOMA  Z = -0.85 All | Fig 5 |
| T6\_HH5 | 20 x 0.5  ED halved  9 comps+ SOMA  Z = -0.85 All |  |
| T7\_noHH (laptop) | 20 x 0.5  ED halved  9 comps + SOMA  Z = -0.65 (8)  Fixed osmolarity in comp8 | Fig4; Fig 5 |
| T8\_noHH (Beast) | 20 x 0.5  ED halved  60s  9 comps + SOMA  Z = -1.05 (8)  Fixed osmolarity in Comp8  sim.set\_zflux(comps=["Comp8"], start\_t=1, end\_t=2, z\_end=-1.05, fixed\_osm=True)  total\_t = 60  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) | Fig 5 |
| T9\_noHH (laptop) | 20 x 0.5  ED halved  20s  9 comps + SOMA  Z = -0.65 (4) | Fig 5 |
| T10\_noHH (STORM) | 20 x 0.5  ED halved  20s  9 comps + SOMA  Z = -1.05 (4) | Fig 5 |
| T11\_noHH (BEAST) | file\_name = "T11\_noHH"  # 1) DEFINE SIMULATOR CLASS AND ADD COMPARTMENTS sim = simulator3.Simulator(file\_name)  sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False) sim.set\_z("Comp0(Soma)", z=-0.65, fixed\_osm=True) # 2) SET SIMULATION SETTINGS  sim.set\_electrodiffusion\_properties(ED\_on=True, diff\_constant\_dict={"na": (1.33 / 2) \* 1e-7, "k": (1.96 / 2) \* 1e-7,  "cl": (2.03 / 2) \* 1e-7, "x": 0}) sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_zflux(comps=["Comp0(Soma)"], start\_t=1, end\_t=2, z\_end=-0.65, fixed\_osm=True) total\_t = 60 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) #sim.set\_hh\_on(comp="Comp0(Soma)", t\_on=0) sim.run\_simulation() | Fig 5 |
| T12\_noHH (STORM) | 20 x 0.5  ED halved  20s  9 comps + SOMA  Z = -1.25 (Soma) | Fig 5 |
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| Experiment 1 |  |  |
| Exp1-1 | Run on T1  sim.set\_xflux(comps=["Comp8"], flux\_type="static", start\_t=10e-3, end\_t=70e-3, z=-0.85, flux\_rate=300\*1e-3/60)  ED halved  Total sim time 100 s  Intervals - 1000 |  |
| Exp1-2 (On laptop) | Run on T1  total\_t = 200 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.set\_xflux(comps=["Comp8"], flux\_type="static", start\_t=10, end\_t=70, z=-0.85, flux\_rate=300\*1e-3/60)  ED halved  Total sim time 100 s  Intervals - 1000 |  |
| Exp1-3 (On laptop) | Run on T1  total\_t = 300 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.set\_xflux(comps=["Comp8"], flux\_type="static", start\_t=60, end\_t=120, z=-0.85, flux\_rate=300\*1e-3/60)  ED halved  Total sim time 100 s  Intervals - 10000 |  |
| Exp1-4 | "cl": (2.03 / 2) \* 1e-7, "x": 0}) sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_hh\_on("Comp0(Soma)", t\_on=0) total\_t = 160 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=10000) sim.set\_xflux(comps=["Comp8"], start\_t=20, end\_t=40, flux\_rate=3e-16) |  |

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| Experiment 2 |  |  |
| Exp2-1 (on Beast | Run on T1  sim.set\_zflux(comps=["Comp8"], start\_t=10, end\_t=40, z\_end=-1.25)  total\_t = 120  ED halved  Total sim time 100 s  Intervals - 5000 | Fig 2; Fig3 |
| Exp2-2 | Run on T1  sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) #sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 100 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=5000) sim.set\_zflux(comps=["Comp8"], start\_t=10, end\_t=40, z\_end=-1.05, fixed\_osm=False) |  |
| Exp2-3 | Run on T1  sim = simulator3.Simulator(new\_file\_name)  for i in comp\_arr:  sim.add\_compartment(i)  sim.set\_electrodiffusion\_properties(ED\_on=True, diff\_constant\_dict={"na": (1.33 / 2) \* 1e-7, "k": (1.96 / 2) \* 1e-7,  "cl": (2.03 / 2) \* 1e-7, "x": 0})  sim.set\_external\_ion\_properties()  sim.set\_atpase\_static(static\_atpase=True)  sim.set\_sa\_static(static\_sa=True)  sim.set\_zflux(comps=["Comp8"], start\_t=30, end\_t=60, z\_end=-1.05, fixed\_osm=False)  # #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True)  #sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3)  total\_t = 300  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=50000)  #sim.add\_synapse("Comp8", "Excitatory", start\_t=50e-3, duration=1e-3, max\_neurotransmitter=4e-3, synapse\_conductance=4e-9)  #sim.add\_current("Comp9", current\_type="Excitatory", start\_t=1e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step)  # sim.set\_xflux(comps=["Comp8"], start\_t=20, end\_t=40, flux\_rate=3e-16)  # sim.add\_current("Comp9", current\_type="Excitatory", start\_t=120e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step)  sim.run\_simulation()  print("fin") |  |

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| Experiment 3 |  |  |
| Exp3-1 (on STORM) | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-1.05)  total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) | Fig3 |
| Exp3-2 (on laptop) | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-0.65) total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |
| Exp3-3 | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-0.45) total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |
| Exp3-4 (on laptop) | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-1.25) total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |
| Exp3-6 (Beast) | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-0.75) total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |
| Exp3-7 | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-0.95) total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |
| Exp3-8 | sim.add\_default\_multicompartment(number\_of\_comps=9, rad=0.5e-5, len=20e-5, soma=False)  sim.set\_z("Comp8", z=-1.05)  sim.set\_z("Comp2", z=-0.65)  sim.set\_electrodiffusion\_properties(ED\_on=True, diff\_constant\_dict={"na": (1.33 / 2) \* 1e-7, "k": (1.96 / 2) \* 1e-7,  "cl": (2.03 / 2) \* 1e-7, "x": 0})  sim.set\_external\_ion\_properties()  sim.set\_atpase\_static(static\_atpase=True)  sim.set\_sa\_static(static\_sa=True)  total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |
| Exp3-5 | sim.set\_zflux(comps=["Comp8"], start\_t=10, end\_t=70, z\_end=-1.25)  sim.set\_zflux(comps=["Comp2"], start\_t=10, end\_t=70, z\_end=-0.45)  total\_t = 180  time\_step = 1e-6  sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) |  |

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| Experiment 4 |  |  |
| Exp4-N | Run on T1  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) #sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 100e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=10000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=1e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) | For Neuron 4a |
| Exp4-1 (on Laptop) | Run on T1  #sim.set\_zflux(comps=["Comp8"], start\_t=1, end\_t=2, z\_end=-0.65, fixed\_osm=True) sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) #sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000)  sim.add\_current("Comp9", current\_type="Excitatory", start\_t=100e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) #sim.set\_zflux(comps=["Comp8"], start\_t=10, end\_t=40, z\_end=-1.05, fixed\_osm=True) | Fig4 |
| Exp4-2(on Laptop) | Run on T2 (z=-0.45)  total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=10000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=120e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) |  |
| Exp4-2v2 | Run on T4v2 (z=-0.65)  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) #sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=100e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) |  |
| Exp4-3(on Laptop) | Run on T3 (z=-1.25)  total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=10000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=120e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) |  |
| Exp4-3v2 | Run on T5v2  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) #sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=100e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) |  |
| Exp4-4 | Run on T4 (z=-0.45) (8)  total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=10000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=120e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) |  |
| Exp4-5 | Run on T5 (z=-1.25) (8)  total\_t = 300e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=10000) sim.add\_current("Comp9", current\_type="Excitatory", start\_t=120e-3, duration=1e-3, current\_A=0.1e-9, dt=time\_step) |  |

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| Experiment |  |  |
| Exp5-1E | Run on T6\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) |  |
| Exp5-2E | Run on T7\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) |  |
| Exp5-3E | Run on T8\_noHH    sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) |  |
| Exp5-1I | Run on T6\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Inhibitory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) |  |
| Exp5-2I | Run on T7\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Inhibitory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) |  |
| Exp5-3I | Run on T8\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Inhibitory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=1e-3, synapse\_conductance=1e-9) |  |
| Exp5-4 | Run on T6\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) |  |
| Exp5-5 | Run on T7\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) |  |
| Exp5-6 | Run on T7\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) |  |
| Exp5-7 | Run on T9\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=50e-3, duration=1e-3, max\_neurotransmitter=4e-3, synapse\_conductance=4e-9) | Z @c4 |
| Exp5-8 | Run on T10\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=50e-3, duration=1e-3, max\_neurotransmitter=4e-3, synapse\_conductance=4e-9) | z@c4 |
| Exp5-9 | Run on T11\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=50e-3, duration=1e-3, max\_neurotransmitter=4e-3, synapse\_conductance=4e-9) | z@soma |
| Exp5-10 | Run on T12\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) #sim.set\_z(comp="Comp8", z=-0.65, fixed\_osm=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=50e-3, duration=1e-3, max\_neurotransmitter=4e-3, synapse\_conductance=4e-9) | z@soma |
| Exp5-11 | Run on T10\_no\_HH (z=-1.05 (4))  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) sim.add\_synapse("Comp4", "Inhibitory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) |  |
| Exp5-12 | Run on T7\_noHH  sim.set\_external\_ion\_properties() sim.set\_atpase\_static(static\_atpase=True) sim.set\_sa\_static(static\_sa=True) sim.set\_hh\_on("Comp0(Soma)", t\_on=1e-3) total\_t = 200e-3 time\_step = 1e-6 sim.set\_timing(total\_t=total\_t, time\_step=time\_step, intervals=1000) sim.add\_synapse("Comp8", "Excitatory", start\_t=100e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) sim.add\_synapse("Comp4", "Inhibitory", start\_t=105e-3, duration=1e-3, max\_neurotransmitter=2e-3, synapse\_conductance=3e-9) |  |
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