Experiment C – Report

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| **Experiment-C1** | * Sanity check for inhibitory input – ensure spike occurs appropriately. * Correct spike dynamics * Ions not yet at steady state by end of Sim |
| **Experiment-C2** | * Same setup as Experiment C1 just for a longer run time. * Correct spike dynamics |
| **Experiment-C3** | * Change [X] in comp 2, and pulse into comp 2 |
| **Experiment-C4** | * Change [X] and z in comp 2, and pulse into comp 2 |
| **Experiment-C5** | * Changing comp 4 [X] * Then pulsing input into comp 2 – proximal input |
| **Experiment-C6** | * Changing comp 4 [X] and z * Then pulsing input into comp 2 – proximal input |
| **Experiment-C7** | * Changing comp 2 [X] * Then pulsing input into comp 4 – distal input |
| **Experiment-C8** | * Changing comp 2 [X] and z * Then pulsing input into comp 4 – distal input |

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| --- | --- |
| Title | Experiment-C1 |
| Aim | Sanity check for the synaptic input code, just 4 compartments |
| File name | “ Experiment-C1” |
| Setup | 4 default compartments. Pulsing inhibitory input to compartment 2 for a duration of 2ms and a maximum neurotransmitter concentration of 1mM. dt = 10^-6  Total time 3 seconds  Synapse started at 0.5s. |
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| Conclusion | * Happy with the dynamic of the synapse. * My chloride driving force ends up at -11.22 mV, Kira’s is -11.25 mV. * Encouraged that the ions converge but not quite at a steady state by the end of the sim |
| Plan | * Slightly longer simulation to get the ions to steady state. * Make a graph like Kira’s to visualize all voltages on one plot. |

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| Title | Experiment-C2 |
| Aim | Repeat Experiment-C1 with a longer run time to get the ions closer to steady state. |
| File name | “ Experiment-C2” \*\*Note space before Experiment |
| Setup | Same as Experiment-C1  **Runtime =8s, synapse @1s** |
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| Conlusion | * Still not perfectly at steady state, will need to run the Sim significantly longer. * Because the actual values of the ions converge in every compartment, I’m confident it will function as the previous multicompartment simulation with identical compartments |