Experiment D – Report

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| **Experiment-D1** | * Fluxing impermeant anions (**ATPase constant**) results in a non-isopotential neuron with a fixed cl driving force |
| **Experiment-D2** | * Changing just impermeant anion concentration does not result in a non-isopotential neuron. * Incomplete (on BEAST) – just a sanity check * To repeat experiment, will need to rerun it |
| **Experiment-D3** | * Fluxing impermeant anions (**ATPase variable**) also results in a non isopotential neuron with a fixed driving force. * In progress (on STORM) |

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| Title | Experiment-D1 |
| Aim | Multicompartment model with multiple anion fluxes 🡪 proving that the model can be non-isopotential with a fixed chloride driving force. |
| Setup | Soma + 9 compartments.  **Soma size (20 X 1 um), comp size (10 X 0.5um)**  **ATPase constant**  **Area scale on**  **Dropping z in compartment 4 and increasing z in compartment 8** |
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| Conclusion | * Successful experiment * Seems to reach a steady state. * Boundary graphs not fully explored. * Limitation of the soma size, which could maybe be fixed by changing the intracellular K+ or Cl- in the compartment next to the soma to adjust for that. |

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| Title | Experiment-D2 |
| Aim | add [X] to compartment 4 and 8, with no z changes |
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|  | Boundary graphs not plotted because not at steady state. |
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| Title | Experiment-D3 |
| Aim | ATPase being on or off does not change the dynamic. |
| Setup | Same setup as Experiment-D1. |
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