

1 Progress

- We found a way to implement the whole process without the use of the *event-based* method in **Python**.
- The python version is written by dividing the time step into a homogeneous and an in-homogeneous part. the homogeneous is obvious integration and the in-homogeneous section is almost like event-based.
- I started implementing the system in **C++**. In this language I can make the implementation *event-based*. I created a class **Neuron** as a new level of abstraction for the system. The system will then contain Neurons and using the functions that will be written for **Neuron** and **Nervous System**, I will implement the system.

2 Problems

- The **python** version doesn't work. I assume there is something wrong with the constants defined in the system; but still, anything is possible.
- The plots for $g\tau A_i$ don't come out as what we expect and for the first run that took about 160000 seconds, the values flew into a small value of order $\mathcal{O}(10^{-2})$ and oscillated about those values for the rest of the time.
- I'm thinking if I implement the system in the *event-based* method, I might be able to have a better view of what happens inside the system. So I start with **C++**

3 Ideas