QoI for which our analysis failed

The time lag from when the stimulus is applied until the state AM\_p attains its minimum. Our linear surrogate had a relative L^2 error of 59% for this QoI and hence we cannot make inference with it. The reason this QoI is so difficult is that it is heavy tailed. The majority of our samples yielded the QoI value between 2 and 8 seconds, but there where samples for which the QoI value was much larger (the max was 42.2). We probably don’t want to get into all of these details in the paper, my suggestion is to say something such “strong nonlinearities of this QoI prohibit constructing an accurate surrogate model so our analysis not applicable.”

The time lag from when the stimulus is applied until the radius attains its maximum. Our linear surrogate had a relative L^2 error of 47% for this QoI and hence we cannot make inference with it. The reason this QoI is so difficult is that it is heavy tailed. The majority of our samples yielded the QoI value between 2 and 15 seconds, but there where samples for which the QoI value was much larger (the max was 33.3). As before, we probably don’t want to get into all of these details in the paper.

QoI which we did not report results because they were nearly constant

Maximum potassium concentration in the Astrocyte. Its mean was 38 times larger than its standard deviation, in other words, it was almost constant.

Average potassium concentration in the Astrocyte. Its mean was 37 times larger than its standard deviation, in other words, it was almost constant.

QoI for which we did analysis but didn’t include in the paper

Maximum potassium concentration in the ECS. We were able to fit surrogates and do our analysis on this QoI. We didn’t report results because of its similarity to the average potassium concentration in the ECS. There are some differences in the results. I think our rational for not including it was that we didn’t want the numerical results section to be a long list of QoI’s that were very similar.