Computational Neuroscience Coursework2

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1 Question 1

1) **[Refractory period = 0]**
Coefficient: 0.9974966683274161

Fano factor for Poisson train / [10 50 100]ms
0.9979473892532505
1.0000924864802672
1.0035217581406053

2) **[Refractory period = 5]**
Coefficient: 0.8267198976517351

Fano factor for Poisson train / [10 50 100]ms
0.7500073130667883
0.702697262305367
0.6917687902811841

2 Question 2

1) Coefficient: 2.0085125289465235

Fano factor for rho data train / [10 50 100]ms
1.117680142627936
2.9297562848640877
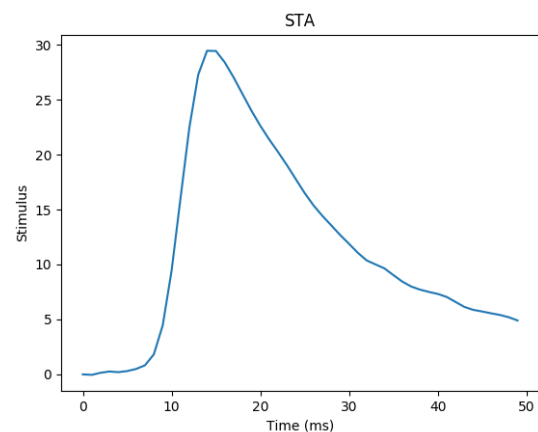4.102959520344769

3 Question 3

1)

Figure 1: *Spike-Triggered Average*

4 Question 4

1) Comparison spike-triggered average by 4 intervals in case that whether spikes are necessarily adjacent or not.
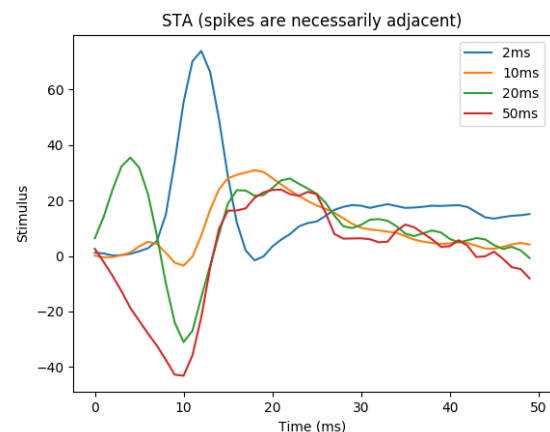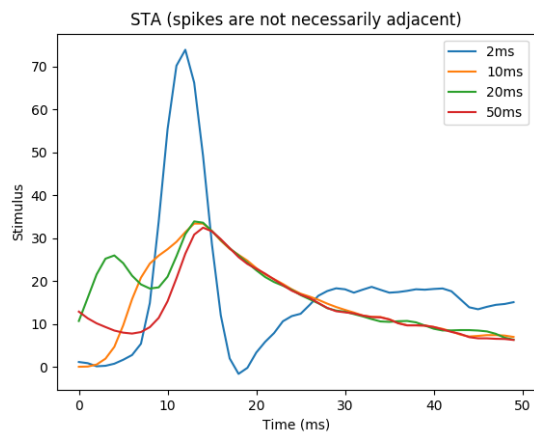

Figure 2: *Necessarily Adjacent Case*

Figure 3: *Not Necessarily Adjacent Case*