

Neuronal Spike Trains, Revisited

BIOF2014

Problem

You are measuring spike trains from a neuron, and you measured the number of spikes observed in multiple experiments, each with different recording time intervals.

You recorded the following results:

time interval (min)	number of spikes
1	6
1	8
1	2
2	11
2	14
3	14
3	17

You performed the experiment again after treating the neuron with a compound.

time interval (min)	number of spikes
1	1
2	3
4	6
5	9

What is the spiking rate per minute before and after compound treatment?

Tasks

1. Consider the following hypotheses:

- compound treatment increases the spiking rate;
- compound treatment decreases the spiking rate;
- compound treatment changes the spiking rate.

Test each hypothesis.