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Quiz 3.2: Synaptic dynamics

Time scales of synaptic dynamics

0 points possible (ungraded)

所有时间都ok

- The rise time of a synapse can be in the range of a few millisecond.
- The decay time of a synapse can be in the range of a few millisecond. 🗸
- ▼ The decay time of a synapse can be in the range of a few hundred millisecond.
- ightharpoonup The depression time of a synapse can be in the range of a few hundred millisecond. ightharpoonup
- ▼ The facilitation time of a synapse can be in the range of a few hundred millisecond.

×

Submit Yo

You have used 1 of 1 attempt

• Answers are displayed within the problem

Synaptic dynamics and membrane dynamics 1

0 points possible (ungraded) Consider the equation

(*)
$$rac{dx}{dt} = -rac{x}{ au} + c \sum_k \delta\left(t - t^k
ight)$$
.

With a suitable interpretation of the variable x and the constant c:

Arr Eq. (*) describes a passive membrane voltage $u\left(t\right)$ driven by spike arrivals.

LIF

- Arr Eq. (*) describes the conductance g(t) of a simple synapse model.
- Eq. (*) describes the maximum conductance \bar{g}_{syn} of a facilitating synapse.

这个不依赖于别的

V

Submit

You have used 1 of 1 attempt

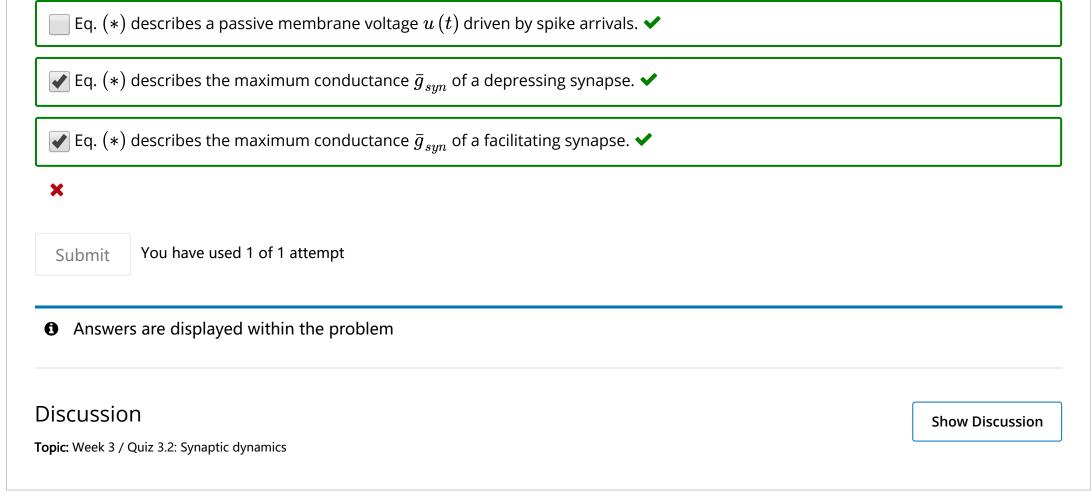
Answers are displayed within the problem

Synaptic dynamics and membrane dynamics 2

0 points possible (ungraded) Consider the equation

(*)
$$rac{dx}{dt} = -rac{x}{ au} + (cx-b)\sum_k \delta\left(t-t^k
ight)$$
.

With a suitable interpretation of the variable x and the constant b and c:



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