

Simple vesicle recycling model

A simple two pool model of spontaneous vesicle recycling. It is a simplified version of the model published in [Sare et al 2005](#)

We assume two pools:

- u_1 : Vesicles currently in the resting state
- u_2 : Vesicles currently activated/merged with the the pre-synaptic membrane

in addition we have two parameters:

- α : activation/exocytosis rate of vesicles in u_1
- β : recycling rate from the membrane back to the resting pool

```
PlotlyBackend()
```

```
vesicle_recycle! (generic function with 1 method)
```

Setting the initial state of the system

```
u0 = [1.0, 0.0]
```

```
t_span = (
    1: 0.0
    2: 1200.0
)
```

```
p = ( $\alpha$  = 0.008,  $\beta$  = 0.5)
```

α after LPA application:

β after LPA application:

time of LPA application:

Enter cell code

```
ContinuousCallback(lpa_application (generic function with 1 method), affect! (generi
```

