In order to create a simulation set-up, 4 files are required:

- param.py —> This is the python file that lists all parameters for the network.
- BGnodes —> This is a parent class that initialises all the nodes of the BG without connecting them. This can be useful for neuron model tuning purposes before making connections
- BGnetwork —> Child class that inherits from BGnodes and connects the nodes according to the scheme listed in param.py
- main.py —> The main file where the BGnetwork is created or any other custom class that inherits from BGnetwork

class BGnodes (neuron parameters, population parameters)

This class initialises the nodes with given neuron and population parameters. No connections are made.

Methods

connectMultimeters (recordG = False)

records V_m, g_ex and g_in of all neurons

connectSpikeDet( )

connects a spike detector to every neuron and records it to a file

simulate (time)

Simulates the network for a given time

plotRaster —> Deprecated

dictionary = get_G ( )

Returns conductance G for each population in a dictionary

setIe (Ie)

Sets the input current to the neurons

class BGnetwork (neuron parameters, synaptic parameters , input noise parameters, synaptic parameters for input noise, connection scheme, population parameters)

This class connects the network with given parameters.

Examples