









Polychrony detection in raster plots

This manuscript ([permalink](#)) was automatically generated from [SpikeAI/polychronies@97adeef](#) on December 3, 2021.

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Abstract

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cortical songs

Ikegaya Y, Aaron G, Cossart R, Aronov D, Lampl I, Ferster D, Yuste R. 2004. Synfire chains and cortical songs: temporal modules of cortical activity. Science (New York, NY) 304:559–564. [1]

Gan were introduced in [2] see also [3] [4] [5] [6] [7]

[8] : Temporally ordered multi-neuron patterns likely encode information in the brain. We introduce an unsupervised method, SPOTDisClust (Spike Pattern Optimal Transport Dissimilarity Clustering), for their detection from high-dimensional neural ensembles. SPOTDisClust measures similarity between two ensemble spike patterns by determining the minimum transport cost of transforming their corresponding normalized cross-correlation matrices into each other (SPOTDis).

surrogate gradients

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```
# test notebook
```

```
import numpy as np
print(f'{np.pi=}')

```

```
np.pi=3.141592653589793

```

results on natural images

in [\[9\]](#), we generate raster plots from natural images

A natural documentary, Planet Earth with David Attenborough

```
filename = './nat_inputs/PlanetEarth.mp4' # filename of the movie
```

References

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8. **Unsupervised clustering of temporal patterns in high-dimensional neuronal ensembles using a novel dissimilarity measure**
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9. <https://laurentperrinet.github.io/sciblog/posts/2018-11-05-statistics-of-the-natural-input-to-a-ring-model.html>