

To Do

- ① Add Repulsion to $\frac{dx}{dt}$
- A) $\sum_j \sum_{k \neq i} \frac{w_{ij}}{\sum_l w_{ikl}}$
- B) $\phi(x) = \left[\frac{1}{1 + \exp(3(|x_i - x_j| - \theta))} \right] - 0.5$

Model

A: NxN

B: K

C: NxL

D: LxL

- ② Add Influencer Network (complete: $D_{xx} = 1$)

- A.) Add Attract/Repel to $\frac{dz}{dt}$

$$\boxed{N} \quad \gamma \frac{dz_x}{dt} = e \left(\sum_{i=1}^n \left[\frac{c_{ix}(t)}{\sum_k c_{ik}(t)} (x_i(t) - z_x(t)) \right] + \sigma \frac{dw_x}{dt}(t) + d \sum_{k \neq x} \frac{w_{xx'}}{\sum_l w_{xk}} (z_x - z_{x'}) \right)$$

Old

$$i.) v_{xl} = D_{xl} \phi(|z_x - z_l|)$$

- C) New IC \boxed{K} G.) $D_{ii} = 1$
- A.) Random C) D.) $c = 1 - a - b$
- B.) $M = 0, b = 0$ E) $e = 1 - d$
- C.) L = Input F.) $\theta = \frac{2 \ln(9)}{\sigma}$

④ Sensitivity Analysis

- A.) $\theta \in [0.5, 2]$ B.) $d \in [0, 1]$
- C.) $a \in [0, 1]$ D.) θ ?

- E.) Parallel!
- ⑤ Summary Statistics

$$A.) |z_i - z_j| \begin{cases} \text{mean} \\ \text{sd} \end{cases}$$

$$B.) |x_i - x_j| \text{ mean}$$

$$C.) \text{colSum}(C)$$