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| Figures | Parameters/Descriptions |
| Globalsyn\_slowcpl | Columns connected through metabolic coupling. Coupling strength Mean: 0.02, std: 0.01  Consumption rate k\_c Mean: 0.3, std: 0.1; recovery rate k\_r Mean 0.16, std 0.04.  Network: sphere (each column connected to four nearest columns) |
| Nosyn\_slowcpl | Columns connected through metabolic coupling.  Coupling strength Mean: 0.01, std: 0.005  Consumption rate k\_c Mean: 0.3, std: 0.1;  recovery rate k\_r Mean 0.16, std 0.04.  Network: sphere. |
| Nosyn\_neuronal | Columns connected through neuronal coupling.  Coupling strength Mean: 1.5, std: 0.4  Consumption rate k\_c Mean: 0.3, std: 0.1; recovery rate k\_r Mean 0.16, std 0.06.  Network: sphere |
| Globalsyn\_neuronal | Columns connected through neuronal coupling.  Coupling strength Mean: 2.5, std: 0.4  Consumption rate k\_c Mean: 0.3, std: 0.1; recovery rate k\_r Mean 0.16, std 0.06.  Network: sphere |
| Localsyn\_neuronal | Columns connected through neuronal coupling.  Coupling strength Mean: 2.4, std: 0.4  Consumption rate k\_c Mean: 0.3, std: 0.1; recovery rate k\_r Mean 0.16, std 0.06.  Network: sphere |
| Local\_global 1-4  (four realizations) | Columns connected through neuronal coupling.  Coupling strength Mean: 2.5, std: 0.5  Consumption rate k\_c Mean: 0.3, std: 0.1; recovery rate k\_r Mean 0.16, std 0.06.  Network: small-world |

\*All parameters are taken from normal distribution.

\* Additive Gaussian noise with unit variance is introduced in each simulation.