<table>
<tr><td rowspan="2">cases</td><th>doc_1</th><th>doc_2</th><th>decision</th><th>id</th></tr>
<tr>
<td>
<table>
<tr><th>authors</th><td><ul><li>di Volo, Matteo</li><li>Goldobin, Denis S.</li><li>Politi, Antonio</li><li>Segneri, Marco</li><li>Torcini, Alessandro</li></ul></td></tr>
<tr><th>title</th><td>Coherent oscillations in balanced neural networks driven by endogenous fluctuations</td></tr>
<tr><th>publication_date</th><td>2023-02-16 00:00:00</td></tr>
<tr><th>source</th><td>SupportedSources.CORE</td></tr>
<tr><th>journal</th><td>Chaos An Interdisciplinary Journal of Nonlinear Science</td></tr>
<tr><th>volume</th><td></td></tr>
<tr><th>doi</th><td>10.1063/5.0075751</td></tr>
<tr><th>urls</th><td><ul><li>https://core.ac.uk/download/554012911.pdf</li></ul></td></tr>
<tr><th>id</th><td>id-8967436209011577342</td></tr>
<tr><th>abstract</th><td>ACKNOWLEDGMENTS We acknowledge extremely useful discussions with L. Klimenko, G. Mongillo, S. Olmi, and E. Shklyaeva. A.T. received financial support by the Excellence Initiative I-Site Paris Seine (Grant No. ANR-16-IDEX-008), by the Labex MME-DII (Grant No. ANR11-LBX-0023-01), and by the ANR Project ERMUNDY (Grant No. ANR-18-CE37-0014) (together with M.d.V.), all part of the French program â€œInvestissements dâ€™Avenir.â€ The derivation and study of the exact solution for the firing rate were supported by the Russian Science Foundation (Grant No. 19-42-04120).Peer reviewedPublisher PD</td></tr>
<tr><th>versions</th><td></td></tr>
</table>
</td>
<td>
<table>
<tr><th>authors</th><td><ul><li>Matteo Di Volo</li><li>Marco Segneri</li><li>Denis Goldobin</li><li>Antonio Politi</li><li>Alessandro Torcini</li></ul></td></tr>
<tr><th>title</th><td>Coherent oscillations in balanced neural networks driven by endogenous fluctuations</td></tr>
<tr><th>publication_date</th><td>2021-10-18 00:00:00</td></tr>
<tr><th>source</th><td>SupportedSources.INTERNET_ARCHIVE</td></tr>
<tr><th>journal</th><td></td></tr>
<tr><th>volume</th><td></td></tr>
<tr><th>doi</th><td></td></tr>
<tr><th>urls</th><td><ul><li>https://web.archive.org/web/20211020233006/https://arxiv.org/pdf/2110.09439v1.pdf</li></ul></td></tr>
<tr><th>id</th><td>id-7115105039729368628</td></tr>
<tr><th>abstract</th><td>We present a detailed analysis of the dynamical regimes observed in a balanced network of identical Quadratic Integrate-and-Fire (QIF) neurons with a sparse connectivity for homogeneous and heterogeneous in-degree distribution. Depending on the parameter values, either an asynchronous regime or periodic oscillations spontaneously emerge. Numerical simulations are compared with a mean field model based on a self-consistent Fokker-Planck equation (FPE). The FPE reproduces quite well the asynchronous dynamics in the homogeneous case by either assuming a Poissonian or renewal distribution for the incoming spike trains. An exact self consistent solution for the mean firing rate obtained in the limit of infinite in-degree allows identifying balanced regimes that can be either mean- or fluctuation-driven. A low-dimensional reduction of the FPE in terms of circular cumulants is also considered. Two cumulants suffice to reproduce the transition scenario observed in the network. The emergence of periodic collective oscillations is well captured both in the homogeneous and heterogeneous setups by the mean field models upon tuning either the connectivity, or the input DC current. In the heterogeneous situation we analyze also the role of structural heterogeneity.</td></tr>
<tr><th>versions</th><td></td></tr>
</table>
</td>
<td>DUPLICATES</td>
<td>154</td>
</tr>
</table>