

Induced anticipated synchronization of neuronal models and its effects on information transfer



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Table of contents

Contributors and funding sources	ix
Publications	xi
List of figures	xvii
List of tables	xxi
Nomenclature	xxiii
1 Introduction and literature review	1
1.1 General overview of neural network models	1
1.1.1 HB+Ih isolated and network model	2
1.1.2 Hopf network model	3
1.1.3 Conductance-based neural mass model	4
1.1.4 Wilson-Cowan network model	5
1.2 Network Synchronization and Dynamics	5
1.3 Functional/Effective Connectivity Measurement	6
2 Methods	9
2.1 Network Models	9
2.1.1 HB+Ih Network Model	9
2.1.2 Hopf Network Model	12
2.1.3 Conductance-based neural mass model	12
2.1.4 Wilson-Cowan Network Model	14
2.2 Chaos	14
2.2.1 Numerical calculation of maximal Lyapunov exponent for ordinary differential equations	15
2.2.2 Lempel-Ziv complexity estimation	15

2.2.3	Chaos in the HB+Ih model	16
2.3	Parameter assessment	16
2.4	Network Synchronization, Dynamics and Delay.	20
2.5	Information Theory Measures	21
3	Results	25
3.1	Selection of an appropriate model	25
3.1.1	Conductance-based Neural Mass Model (NMM)	25
3.1.2	Wilson-Cowan Model (WC)	27
3.2	Quality of embedding and estimators methods	32
3.3	Information transmission in deterministic and stochastic simulations	39
3.4	Multistability effects in the transfer entropy estimation.	44
3.5	Exploration of the network connectivity space under induced oscillatory frequency differences.	47
3.6	Effective connectivity under anticipatory and delayed synchronization for an fMRI based model.	52
4	Discussion	57
4.1	Concluding Remarks	57
4.2	Further Study	59
	References	61
	Appendix A HB+Ih MODEL CODES	71
	Appendix B HOPF MODEL CODES	103
	Appendix C FCD CODES	119
	Appendix D NMM CODES	139
	Appendix E WC MODEL CODES	147
	Appendix F ESTIMATORS CODES	155

List of figures

2.1	HB+Ih chaotic behavior for different projections of the conductance space. (a) Firing rates in spikes/s. (b) Lyapunov Exponent. (c) Lempel-Ziv Complexity.	17
2.2	HB+Ih neuron's behavior and experimental setting. (a) Oscillatory frequencies (OF) of the HB+Ih model in the g_{sd}/g_{sr} parameter space (left) and histogram of values (right). Blue/red lines show what we define as low (6-8 Hz) and high (8-10 Hz) oscillatory frequencies. (b) Experimental setting where two SWN (blue and red) are unidirectionally coupled (black) with a coupling parameter G_{inter} . Each network is connected with the parameter G_{intra} . To produce an LFP we average all the voltage traces within each SWN.	19
3.1	Macaquee network topology of the Gollo et al., 2015 Gollo et al. (2015) work. X and Y axis represent the nodes of the network.	26
3.2	Gollo et al. (2015) model connected with macaque network topology. As it can be seen in Gollo's work, this is almost an exact replication of the neural network behavior. In (a) are the voltage traces of all the nodes in the macaque conectome and in (b) is the histogram of the voltage peaks which represent clusters of neurons.	26
3.3	NMM simulation for a single node that Breakspear et al. (2003), Gollo et al. (2015) indicate with chaotic properties. All panels are simulated using the same parameters except for dt which decreases from 0.1, 0.05, 0.01 and 0.005 from (a) to (d) respectively. Notice that as dt decreases the apparent chaotic behavior vanishes.	28
3.4	NMM simulation for a single node with noise, for an Euler-Maruyama scheme in (a) and (b) using a predefined integration scheme implemented in the library Scipy from Python.	29

3.5	TE of two WC nodes as we do a parameter sweeping of coupling and noise parameters. In (a) we show the mean of the ten trials and in (b) its standard deviation.	30
3.6	TE of two WC small-world networks unidirectionally connected as we do a parameter sweeping of coupling, noise parameters and probability of connection in the small world network.	31
3.7	Voltage traces and synchronization behavior of one single simulation of the explored space in Fig. 3.6.	32
3.8	TE estimation methods comparison, Gaussian-Copula (GCe) and Renyi estimators were implemented in Python and Kraskov from JIDT-package. In (a) is the estimation of the imposed connection, which has a theoretical value of approximately 0.139175 and in (b) the estimation of the opposed direction, which for effects of the simulation is zero.	34
3.9	TE estimation in HB+Ih model using the Ragwitz criterion. All panels shows TE measured using Gaussian Copulas and Kraskov estimator. Differences are related with the type of oscillators defined in each sub-networks, in panel (a) and (d) both sub-networks have only chaotic or non-chaotic nodes respectively. Panels (b) and (c) shows Chaotic to Non-Chaotic and Non-Chaotic to Chaotic respectively.	35
3.10	TE estimation in HB+Ih model using the Vakorin criterion. All panels shows TE measured using Gaussian Copulas and Kraskov estimator. Differences are related with the type of oscillators defined in each sub-networks, in panel (a) and (d) both sub-networks have only chaotic or non-chaotic nodes respectively. Panels (b) and (c) shows Chaotic to Non-Chaotic and Non-Chaotic to Chaotic respectively.	36
3.11	TE estimation in HB+Ih model using KSG estimator. Panels represent deterministic and noise simulations, (a) is deterministic, (b) has low noise ($A=50000$) and (c) high noise ($A=5000$)	37
3.12	TE estimation in HB+Ih model using Gaussian-Copulas estimator. Panels represent deterministic and noise simulations, (a) is deterministic, (b) has low noise ($A=50000$) and (c) high noise ($A=5000$)	38
3.13	Networks synchronization behavior in the deterministic scenario and its effect in the oscillatory frequency and transfer entropy for high $\mathbf{G}_{intra} = 0.1$ and moving \mathbf{G}_{inter}	40
3.14	Network's behavior with low levels of channel noise for the same fixed high $\mathbf{G}_{intra} = 0.1$ and moving \mathbf{G}_{inter}	42

3.15 Comparison of Synchrony (R) and Transfer Entropy (TE) between Deterministic and Low Noise intensity for a medium high $G_{intra} = 0.028$ and moving G_{inter}	43
3.16 Synchronization measures and transfer entropy for the delayed and anticipated synchronization regimes fixing inter-network connectivity $G_{inter} = 0.046$ and moving the intra-network connectivity G_{intra}	45
3.17 FCD variance and TE in four specific values of G_{inter} defined by each column on increasing values from left to right and moving the intra-network connectivity G_{intra} in the x-axis.	46
3.18 Wide parameters space exploration for G_{intra} in the x-axis and G_{inter} for the y-axis.	48
3.19 Global phase synchrony measures for a wide parameters space exploration for G_{intra} in the x-axis and G_{inter} for y-axis.	50
3.20 Oscillatory frequencies, Active Information Storage (AIS), Pearson Correlation (PCorr) and Mutual Information (MI) for a wide parameters space exploration for G_{intra} in the x-axis and G_{inter} for y-axis.	51
3.21 Transfer entropy and Time delay response for delayed and anticipated synchronization in a unidirectional coupling of two random networks of 50 nodes, where each node follows a Hopf model. The oscillatory behavior of each networks is in the [0.025,0.05][Hz] interval following a DS (Fast→Slow) and AS (Slow→Fast) scenarios. In panel (a) is the experimental setup showing networks 1 and 2 in blue and red, respectively. This two networks are connected by black arrows with connections from network 1 to network 2 only. Panel (b) shows the effective connectivity using transfer entropy for each node to node connection, note that each of the four blocks represent the $N_1 \rightarrow N_1$, $N_1 \rightarrow N_2$, $N_2 \rightarrow N_1$ and $N_2 \rightarrow N_2$, bounded by squares in colors blue, black, gray and red respectively. This set of colors remains for the Time delay (τ) in panel (c).	53
3.22 Summary of the estimation of Transfer entropy, Time delay and FCD variance, for ten trials of the unidirectional coupling of two random networks of 50 nodes, where each node follows a Hopf model. The oscillatory behavior of each network is in the [0.025,0.05][Hz] interval following a DS (Fast→Slow) and AS (Slow→Fast) characterization in column panels. Raw panels (a) and (b) shows the effective connectivity using transfer entropy in the directions $N_1 \rightarrow N_2$ and $N_2 \rightarrow N_1$ respectively. Panel (c) shows the Time delay (τ) while panel (d) shows the FCD variance.	55

Las redes en el cerebro se analizan principalmente desde tres perspectivas metodológicas, conexiones anatómicas, dependencia estadística y relaciones causales. Esto último es de capital importancia en este trabajo, ya que exploramos una conformación anatómica unidireccional de dos redes o maestro-esclavo, que en condiciones adecuadas puede generar la sincronización anticipada (AS). Aquí, exploramos parámetros relacionados con la conectividad entre y dentro de cada una de las dos redes, y analizamos medidas relacionadas con la dependencia estadística, la transferencia de información y la dinámica de sincronización. También tenemos en cuenta el mecanismo de sincronización retardada (DS) para compararlo con los fenómenos AS. Nuestro análisis identificó regiones en el espacio de parámetros de conectividad donde la entropía de transferencia cuantifica la transferencia de información espuria, aunque podemos corregir esto parcialmente a través del ruido, para un tipo específico de modelo.