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A statistical model for brain networks inferred from large-scale electrophysiological signals  
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|              | $E_g$         | $E_l$         | $L$           | $C$           | $Q$           | Observed      | $GW_E$        | $GW_N$        | $GW_D$        | $GW_K$ |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------|
| <i>theta</i> | -2.244(0.026) | 0.404(0.688)  | -1.059(0.291) | 2.078(0.040)  | -0.138(0.895) | 1.751(0.085)  | -1.415(0.158) | -1.771(0.081) | -1.307(0.195) |        |
| <i>alpha</i> | 2.558(0.012)  | 3.529(0.007)  | 2.113(0.035)  | -2.298(0.024) | 3.557(0.007)  | -2.073(0.043) | 0.721(0.174)  | 2.186(0.033)  | 2.426(0.017)  |        |
| <i>beta</i>  | -0.091(0.331) | 1.159(0.251)  | -1.952(0.055) | -0.963(0.337) | -0.137(0.888) | 0.986(0.330)  | 1.586(0.118)  | 2.198(0.030)  | -1.370(0.172) |        |
| <i>gamma</i> | 0.044(0.961)  | -0.312(0.758) | -0.936(0.356) | -0.453(0.650) | -1.869(0.066) | 1.437(0.151)  | 2.174(0.131)  | 1.967(0.052)  | -2.077(0.040) |        |

  

|              | $E_g$         | $E_l$         | $L$           | $C$           | $Q$           | Simulated     | $GW_E$        | $GW_N$        | $GW_D$        | $GW_K$ |
|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------|
| <i>theta</i> | -1.920(0.057) | 0.178(0.862)  | -1.255(0.211) | 1.737(0.084)  | -0.115(0.913) | 1.730(0.086)  | -0.968(0.338) | -0.908(0.371) | -0.986(0.327) |        |
| <i>alpha</i> | 1.799(0.076)  | 3.168(0.002)  | 1.531(0.130)  | -2.427(0.018) | 1.661(0.097)  | -2.086(0.040) | 0.933(0.352)  | 1.032(0.310)  | 2.235(0.027)  |        |
| <i>beta</i>  | -0.861(0.393) | 1.598(0.111)  | -2.574(0.011) | -0.721(0.467) | -0.751(0.456) | 1.491(0.139)  | 1.426(0.156)  | 1.885(0.061)  | -1.529(0.130) |        |
| <i>gamma</i> | -0.645(0.520) | -0.683(0.494) | -2.134(0.034) | -1.063(0.290) | -2.236(0.028) | 1.507(0.135)  | 2.147(0.035)  | 2.152(0.033)  | -2.302(0.023) |        |

Table S3: Statistical differences between the values of graph indices and metrics in the *EO* and *EC* condition. Upper part of the table shows the *T*-values and *p*-values (within parentheses) returned by non-parametric permutation-based t-tests between conditions in the observed brain networks. Bottom part of the table, shows the *T*-values and *p*-values (within parentheses) returned by non-parametric permutation-based t-tests between conditions in the simulated synthetic networks.