Supplementary Table for Statistics for every figure panel.

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| **Figure** | **Test type** | **N** | **Stat-value** | **P-value** | **Cohen’s effect-size** |
| 1D-1 | Rayleigh | 9476 | z = 4214.7 | p < 1x10-16 | / |
| 1D-2 | Rayleigh | 9476 | z = 3489 | p < 1x10-16 | / |
| 1D-3 | Rayleigh | 9476 | z = 1416 | p < 1x10-16 | / |
| 1D-4 | Rayleigh | 9476 | z = 548.16 | p < 1x10-16 | / |
|  |  |  |  |  |  |
| 2D | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 5.745Frequency bands:F(1,12) = 1578.2Interaction:F(5,60) = 1.75 | Treatment:p = 0.034Frequency bands:p =2x10-16Interaction:p = 0.13 | Treatment:f = 0.69Frequency bands:f = 11.47Interaction:Cohen f = 0.38 |
| 2E | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 21.75Frequency bands:F(1,12) = 2386.18Interaction:F(5,60) = 5.76 | Treatment:p = 5.4 x10-4Frequency bands:p =2x10-16Interaction:p = 2.08x10-4 | Treatment:f = 1.35Frequency bands:f = 14.1Interaction:f = 0.69 |
| 2E - Delta | Unpaired t-test | Sham = 5SNI = 9 | t(12) = 2.96 | p = 0.012 | d = 1.76 |
| 2E - Theta | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -3.54 | p = 0.004 | d = -1.85 |
| 2E - Sigma | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -3.1 | p = 0.009 | d = -1.9 |
| 2E - Beta | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -3.3 | p = 0.006 | d = -1.95 |
| 2E - L.gamma | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -3.27 | p = 0.006 | d = -1.89 |
| 2E - H.gamma | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -2.07 | p = 0.06 | d = -1.04 |
| 2F - Delta | rank sum test | Sham = 6SNI = 8 | W = 46 | p = 0.02 | d = 1.38  |
| 2F - Theta | rank sum test | Sham = 6SNI = 8 | W = 3 | p = 0.002 | d = -1.66 |
| 2F - Sigma | rank sum test | Sham = 6SNI = 8 | W = 13 | p = 0.11 | d = -0.96  |
| 2F - Beta | rank sum test | Sham = 6SNI = 8 | W = 13 | p = 0.11 | d = -1 |
| 2F - L.gamma | rank sum test | Sham = 6SNI = 8 | W = 12 | p = 0.08 | d = -0.99 |
| 2F - H.gamma | rank sum test | Sham = 6SNI = 8 | W = 11 | p = 0.06 | d = -0.9 |
| 2G | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,13) = 3.59Frequency bands:F(5,65) = 1145.13Interaction:F(5,65) = 5.76 | Treatment:p = 0.08Frequency bands:p = 2x10-16Interaction:p = 0.008 | Treatment:f = 0.53Frequency bands:f = 9.39Interaction:f = 0.51 |
| 2G - Delta | Unpaired t-test | Sham = 5SNI = 9 | t(13) = 3.13 | p = 0.007 | d = 1.6 |
| 2G - Theta | Unpaired t-test | Sham = 5SNI = 9 | t(13) = -3.17 | p = 0.007 | d = -1.61 |
| 2G - Sigma | Unpaired t-test | Sham = 5SNI = 9 | t(13) = -1.59 | p = 0.13 | d = -0.84 |
| 2G - Beta | Unpaired t-test | Sham = 5SNI = 9 | t(13) = -1.98 | p = 0.06 | d = -1.02 |
| 2G - L.gamma | Unpaired t-test | Sham = 5SNI = 9 | t(13) = -1.6 | p = 0.13 | d = -0.78 |
| 2G - H.gamma | Unpaired t-test | Sham = 5SNI = 9 | t(13) = -1.4 | p = 0.17 | d = -0.75 |
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| 3A - LightphaseWake | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.004Day:F(1,34) = 7.22Interaction:F(1,34) = 0.94 | Treatment:p = 0.9Day:p = 0.011Interaction:p = 0.33 | Treatment:f = 0.01Day:f = 0.46Interaction:f = 0.17 |
| 3A - lightphaseNREMS | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.048Day:F(1,34) = 12.2Interaction:F(1,34) = 2.5 | Treatment:p = 0.8Day:p = 0.0013Interaction:p = 0.12 | Treatment:f = 0.04Day:f = 0.6Interaction:f = 0.27 |
| 3A - lightphaseREMS | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.6Day:F(1,34) = 1.77Interaction:F(1,34) = 1.46 | Treatment:p = 0.44Day:p = 0.19Interaction:p = 0.23 | Treatment:f = 0.13Day:f = 0.23Interaction:f = 0.21 |
| 3A - DarkphaseWake | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.79Day:F(1,34) = 21.4Interaction:F(1,34) = 0.72 | Treatment:p = 0.79Day:p = 5.2x10-5Interaction:p = 0.72 | Treatment:f = 0.04Day:f = 0.79Interaction:f = 0.06 |
| 3A - DarkphaseNREMS | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.009Day:F(1,34) = 27.4Interaction:F(1,34) = 0.37 | Treatment:p = 0.92Day:p = 8.5x10-6Interaction:p = 0.54 | Treatment:f = 0.02Day:f = 0.9Interaction:f = 0.11 |
| 3A - Darkphase REMS | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 1.56Day:F(1,34) = 0.11Interaction:F(1,34) = 0.62 | Treatment:p = 0.22Day:p = 0.73Interaction:p = 0.43 | Treatment:f = 0.21Day:f = 0.06Interaction:f = 0.14 |
| 3B - NREMS | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 1.3Bout Length:F(2,68) = 206.49Interaction:F(2,68) = 0.23 | Treatment:p = 0.26Bout Length:p = 2x10-16Interaction:p = 0.79 | Treatment:f = 0.2Bout Length:f = 2.46Interaction:f = 0.08 |
| 3B - REMS | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.09Bout Length:F(2,68) = 208.83Interaction:F(2,68) = 0.48 | Treatment:p = 0.76Bout Length:p = 2x10-16Interaction:p = 0.23 | Treatment:f = 0.05Bout Length:f = 2.48Interaction:f = 0.21 |
| 3C | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.66Day:F(1,34) = 0.006Interaction:F(1,34) = 0.021 | Treatment:p = 0.41Day:p = 0.94Interaction:p = 0.88 | Treatment:f = 0.14Day:f = 0.01Interaction:f = 0.02 |
| 3D | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.67Day:F(1,34) = 0.63Interaction:F(1,34) = 0.61 | Treatment:p = 0.79Day:p = 0.43Interaction:p = 0.44 | Treatment:f = 0.04Day:f = 0.14Interaction:f = 0.13 |
| 3E | Mixed-model ANOVA | Sham = 17SNI = 14 | Treatment:F(1,29) = 0.5Day:F(1,29) = 9.8State:F(1,29) = 70.42Interaction:F(1,29) = 5.3 | Treatment:p = 0.47Day:p = 0.004State:p = 3x10-9Interaction:p = 0.027 | Treatment:f = 0.13Day:f = 0.58State:f = 1.56Interaction:f = 0.43 |
| 3E | Paired t-testNREMS | Sham = 17 | t(16) = -0.4 | p = 0.69 | d = -0.08 |
| 3E | Paired t-testNREMS | SNI = 14 | t(13) = -3.75 | p = 0.002 | d = -0.95 |
| 3E | Paired t-testREMS | Sham = 17 | t(16) = -1.9 | p = 0.07 | d = -0.36 |
| 3E | Paired t-testNREMS | SNI = 14 | t(13) = -2.47 | p = 0.02 | d = -0.7 |
| 3F | One sample t-test | Sham = 17 | t(16) = 0.97 | p = 0.34 | mean = 0.02 |
| 3F | One sample t-test | SNI = 17 | t(16) = 2.96 | p =0.009 | mean = 0.06 |
| 3G | One sample t-test | Sham = 17 | t(16) = 0.46 | p = 0.64 | mean = 0.009 |
| 3G | One sample t-test | SNI = 17 | t(16) = 2.62 | p = 0.01 | mean = 0.05 |
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| 4D | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.012Day:F(1,34) = 0.003Interaction:F(1,34) = 2.17 | Treatment:p = 0.91Day:p = 0.95Interaction:p = 0.14 | Treatment:f = 0.02Day:f = 0.008Interaction:f = 0.25 |
| 4E | 95 CI  | Sham = 18SNI = 18 | Sham: 152.2 ±1.3SNI: 150.4 ±1.3 | / | / |
| 4F | Mixed-model ANOVA | Sham = 18SNI = 18 | Treatment:F(1,34) = 0.046State:F(2,68) = 636.9Interaction:F(2,68) = 0.6 | Treatment:p = 0.83State:p = 2x10-16Interaction:p = 0.54 | Treatment:f = 0.04State:f = 4.33Interaction:f = 0.13 |
| 4H | One sample t-test | Sham = 12 | t(16) = 17.2 | p = 2.6x10-9 | mean = 166.7 |
| 4H | One sample t-test | SNI = 12 | t(16) = 16.5 | p = 4.2x10-9 | mean = 170.5 |
| 4H | Unpaired t-test | Sham = 12SNI = 12 | t(22) = -0.64 | p = 0.52 | d = -0.26 |
| 4J | Mixed-model ANOVA | Sham = 12SNI = 12 | Treatment:F(1,22) = 0.9SD:F(1,22) = 58.52Interaction:F(1,22) = 0.13 | Treatment:p = 0.35SD:p = 1.3x10-7Interaction:p = 0.72 | Treatment:f = 0.2SD:f = 1.63Interaction:f = 0.08 |
| 4L | Mixed-model ANOVA | Sham = 12SNI = 12 | Treatment:F(1,22) = 3.08SD:F(1,22) = 1.45Interaction:F(1,22) = 5.7 | Treatment:p = 0.09SD:p = 0.24Interaction:p = 0.025 | Treatment:f = 0.37SD:f = 0.26Interaction:f = 0.51 |
| 4L | Paired t-test | Sham = 12 | t(11) = 2.22 | p = 0.048 | d = 0.92 |
| 4L | Paired t-test | SNI = 12 | t(11) = -1.01 | p = 0.33 | d = -0.29 |
| 4L - Control | Unpaired t-test | Sham = 12SNI = 12 | t(22) = 0.15 | p = 0.88 | d = 0.06 |
| 4L - SD | Unpaired t-test | Sham = 12SNI = 12 | t(22) = -2.3 | p = 0.03 | d = -0.95 |
|  |  |  |  |  |  |
| 5C - Delta | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 7.16Period:F(1,12) = 18.51Interaction:F(1,12) = 18.31 | Treatment:p = 0.02Period:p = 0.001Interaction:p = 0.001 | Treatment:f = 0.77Period:f = 1.24Interaction:f = 1.24 |
| 5C - Delta | Paired t-test | Sham = 5 | t(4) = -7.9 | p = 0.001 | d = -1.02 |
| 5C - Delta | Paired t-test | SNI = 9 | t(8) = -0.8 | p = 0.44 | d = -0.08 |
| 5C - DeltaContinuity | Unpaired t-test | Sham = 5SNI = 9 | t(12) = 2.11 | p = 0.05 | d = 1.24 |
| 5C - Delta Fragility | Unpaired t-test | Sham = 5SNI = 9 | t(12) = 3.13 | p = 0.008 | d = 1.84 |
| 5D - Beta | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 9.32Period:F(1,12) = 270Interaction:F(1,12) = 1 | Treatment:p = 0.01Period:p = 1.36 x10-9Interaction:p = 0.33 | Treatment:f = 0.88Period:f = 4.74Interaction:f = 0.29 |
| 5E - Low gamma | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 11.49Period:F(1,12) = 398.3Interaction:F(1,12) = 0.75 | Treatment:p = 0.005Period:p = 1.43 x10-10Interaction:p = 0.4 | Treatment:f = 0.98Period:f = 5.76Interaction:f = 0.25 |
| 5F - High gamma | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 3.31Period:F(1,12) = 94.3Interaction:F(1,12) = 5.83 | Treatment:p = 0.09Period:p = 4.89 x10-7Interaction:p = 0.03 | Treatment:f = 0.53Period:f = 2.8Interaction:f = 0.7 |
| 5F - High gamma | Paired t-test | Sham = 5 | t(4) = 14.17 | p = 0.0001 | d = 0.75 |
| 5F - High gamma | Paired t-test | SNI = 9 | t(8) = 5.45 | p = 0.0006 | d = 0.35 |
| 5F - High gammaContinuity | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -1.55 | p = 0.14 | d = -0.91 |
| 5F - High gamma Fragility | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -2.08 | p = 0.05 | d = -1.2 |
| 5G - Delta | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,12) = 0.42Period:F(1,12) = 11.9Interaction:F(1,12) = 0.009 | Treatment:p = 0.52Period:p = 0.004Interaction:p = 0.92 | Treatment:f = 0.19Period:f = 1Interaction:f = 0.03 |
| 5H - Beta | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,12) = 0.56Period:F(1,12) = 127.49Interaction:F(1,12) = 0.65 | Treatment:p = 0.46Period:p = 9.5x10-8Interaction:p = 0.43 | Treatment:f = 0.22Period:f = 3.26Interaction:f = 0.23 |
| 5I - Low gamma | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,12) = 0.63Period:F(1,12) = 75.84Interaction:F(1,12) = 0.93 | Treatment:p = 0.44Period:p = 1.56x10-6Interaction:p = 0.35 | Treatment:f = 0.23Period:f = 2.51Interaction:f = 0.28 |
| 5J - High gamma | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,12) = 0.004Period:F(1,12) = 9.4Interaction:F(1,12) = 2.66 | Treatment:p = 0.94Period:p = 0.009Interaction:p = 0.12 | Treatment:f = 0.02Period:f = 0.89Interaction:f = 0.47 |
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| 6B  | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 8.9Period:F(1,12) = 470.6Interaction:F(1,12) = 5.33 | Treatment:p = 0.01Period:p = 5.39x10-11Interaction:p = 0.03 | Treatment:f = 0.86Period:f = 6.26Interaction:f = 0.67 |
| 6B | Paired t-test | Sham = 5 | t(4) = 17.98 | p = 5.6x10-5 | d = 2.28 |
| 6B | Paired t-test | SNI = 9 | t(8) = 14.8 | p = 4.13x10-7 | d = 1.49 |
| 6B - Continuity | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -2.51 | p = 0.02 | d = -1.4 |
| 6B - Fragility | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -3.44 | p = 0.004 | d = -1.97 |
| 6C | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 0.2Period:F(1,12) = 3.83Interaction:F(1,12) = 1.31 | Treatment:p = 0.65Period:p = 0.07Interaction:p = 0.27 | Treatment:f = 0.13Period:f = 0.57Interaction:f = 0.33 |
| 6E | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 11.26Period:F(1,12) = 25.3Interaction:F(1,12) = 2.6 | Treatment:p = 0.005Period:p = 0.0003Interaction:p = 0.13 | Treatment:f = 0.97Period:f = 1.45Interaction:f = 0.47 |
| 6F | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 0.045Period:F(1,12) = 44.5Interaction:F(1,12) = 0.9 | Treatment:p = 0.83Period:p = 2.3x10-5Interaction:p = 0.35 | Treatment:f = 0.06Period:f = 1.93Interaction:f = 0.28 |
| 6H | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 1.75Period:F(1,12) = 11.19Peak or no peak:F(1,12) = 26.7peak x period:F(1,12) = 10.67 | Treatment:p = 0.21Period:p = 0.005Peak or no peak:p = 0.0002peak x period:p = 0.006 | Treatment:f = 0.38Period:f = 0.97Peak or no peak:f = 1.49peak x period:f = 0.94 |
| 6H - Continuity | Paired t-test peak vs no-peak | Sham = 5 | t(4) = -4.01 | p = 0.015 | d = -1.6 |
| 6H - Fragility | Paired t-test peak vs no-peak | Sham = 5 | t(4) = -4.61 | p = 0.009 | d = -1.8 |
| 6H - Continuity | Paired t-test peak vs no-peak | SNI = 9 | t(8) = -2.8 | p = 0.02 | d = -1.31 |
| 6H - Fragility | Paired t-test peak vs no-peak | SNI = 9 | t(8) = -3.5 | p = 0.007 | d = -1.91 |
| 6I | Unpaired t-test | Sham = 5SNI = 9 | t(12) = -2.6 | p = 0.02 | d = -1.62 |
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| 8D | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 11.07Period:F(1,12) = 136.6Interaction:F(1,12) = 0.3 | Treatment:p = 0.005Period:p = 1.31x10-8Interaction:p = 0.58 | Treatment:f = 0.89Period:f = 3.12Interaction:f = 0.15 |
|  |  |  |  |  |  |
| SUp 2B | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 14.9MAs:F(1,12) = 110.2Interaction:F(1,12) = 0.76 | Treatment:p = 0.002MAs:p = 2.1x10-7Interaction:p = 0.39 | Treatment:f = 1.12MAs:f = 3.03Interaction:f = 0.25 |
| SUp 2C | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,12) = 0.24MAs:F(1,12) = 101.6Interaction:F(1,12) = 1.39 | Treatment:p = 0.62Period:p = 3.28x10-7Interaction:p = 0.26 | Treatment:f = 1.14MAs:f = 2.91Interaction:f = 0.34 |
| SUp 2D - Left | Wilcoxon rank-sum | Sham = 4SNI = 6 | W = 10 | p = 0.76 | d = -0.006 |
| SUp 2D - Middle | Wilcoxon signed-rankMAs | Sham = 4SNI = 6 | V = 10 | p = 0.12 | d = 1.55 |
| SUp 2D - Middle | Wilcoxon signed-rankNREMS | Sham = 4SNI = 6 | V = 21 | p = 0.03 | d = 1.86 |
| SUp 2D - Right | Mixed-model ANOVA | Sham = 5SNI = 9 | Treatment:F(1,8) = 2.06MAs:F(1,8) = 39.12Interaction:F(1,8) = 1.39 | Treatment:p = 0.18MAs:p = 0.0002Interaction:p = 0.36 | Treatment:f = 0.51MAs:f = 2.21Interaction:f = 0.34 |
| SUp 2E - Left | Unpaired t-test | Sham = 10SNI = 12 | t(21) = -0.5 | p = 0.62 | d = 0.004 |
| SUp 2E - Middle | Mixed-model ANOVA | Sham = 10SNI = 12 | Treatment:F(1,8) = 0.8MAs:F(1,8) = 446.8Interaction:F(1,8) = 1.6 | Treatment:p = 0.37MAs:p = 1.23x10-15Interaction:p = 0.2 | Treatment:f = 0.2MAs:f = 4.61Interaction:f = 0.28 |
| SUp 2E - Right | Mixed-model ANOVA | Sham = 10SNI = 12 | Treatment:F(1,8) = 0.29MAs:F(1,8) = 174.9Interaction:F(1,8) = 0.03 | Treatment:p = 0.59MAs:p = 1.18x10-11Interaction:p = 0.85 | Treatment:f = 0.12MAs:f = 2.89Interaction:f = 0.04 |
| SUp 2F - Left | Unpaired t-test | Sham = 6SNI = 8 | t(12) = -0.23 | p = 0.82 | d = 0.003 |
| SUp 2F - Middle | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,12) = 0.89MAs:F(1,12) = 63.9Interaction:F(1,12) = 0.54 | Treatment:p = 0.36MAs:p = 3.77x10-6Interaction:p = 0.47 | Treatment:f = 0.27MAs:f = 2.31Interaction:f = 0.21 |
| SUp 2F - Right | Mixed-model ANOVA | Sham = 6SNI = 8 | Treatment:F(1,12) = 1.8MAs:F(1,12) = 50.26Interaction:F(1,12) = 1.7 | Treatment:p = 0.19Period:p = 1.27x10-5Interaction:p = 0.21 | Treatment:f = 0.39MAs:f = 2.05Interaction:f = 0.38 |