

Supplementary Table 2: R1 measurements for regions of DK atlas. Coefficients of variation (CoV) are given as % x 100. Statistically significant differences (at  $p < 0.05$  after FDR correction) of the parameter values and associated CoVs between non-motion corrected and motion corrected datasets are given with \*.

bankssts

R1 (1/s)	$0.666 \pm 0.033$	$0.638 \pm 0.015^*$
CoV (vertex based)	$4.194 \pm 3.397$	$1.214 \pm 0.324^*$
CoV (ROI based)	$3.543 \pm 3.539$	$0.772 \pm 0.350^*$
ICC (vertex based)	$0.317 \pm 0.113$	$0.742 \pm 0.113$
ICC (ROI based)	0.360	0.871

caudalanteriorcingulate

R1 (1/s)	$0.678 \pm 0.079$	$0.602 \pm 0.015^*$
CoV (vertex based)	$9.080 \pm 8.107$	$2.481 \pm 0.869^*$
CoV (ROI based)	$8.653 \pm 8.853$	$1.179 \pm 0.883^*$
ICC (vertex based)	$0.272 \pm 0.105$	$0.540 \pm 0.129$
ICC (ROI based)	0.242	0.691

caudalmiddlefrontal

R1 (1/s)	$0.670 \pm 0.041$	$0.632 \pm 0.015^*$
CoV (vertex based)	$4.968 \pm 3.974$	$1.566 \pm 0.797^*$
CoV (ROI based)	$4.435 \pm 3.982$	$0.831 \pm 0.718^*$
ICC (vertex based)	$0.318 \pm 0.104$	$0.656 \pm 0.093$
ICC (ROI based)	0.360	0.796

cuneus

R1 (1/s)	$0.672 \pm 0.031$	$0.651 \pm 0.020^*$
CoV (vertex based)	$3.208 \pm 2.846$	$1.107 \pm 0.386^*$

CoV (ROI based)	2.775 ± 2.883	0.664 ± 0.483*
ICC (vertex based)	0.432 ± 0.046	0.847 ± 0.044
ICC (ROI based)	0.461	0.927
entorhinal		
R1 (1/s)	0.806 ± 0.185	0.733 ± 0.036*
CoV (vertex based)	10.403 ± 10.358	6.168 ± 0.945
CoV (ROI based)	10.415 ± 21.036	3.793 ± 2.026
ICC (vertex based)	0.117 ± 0.142	0.515 ± 0.123
ICC (ROI based)	-0.005	0.466
fusiform		
R1 (1/s)	0.668 ± 0.035	0.635 ± 0.014*
CoV (vertex based)	4.582 ± 3.661	1.778 ± 0.425*
CoV (ROI based)	3.714 ± 3.864	0.449 ± 0.350*
ICC (vertex based)	0.299 ± 0.157	0.643 ± 0.190
ICC (ROI based)	0.341	0.937
inferiorparietal		
R1 (1/s)	0.661 ± 0.036	0.632 ± 0.015*
CoV (vertex based)	4.006 ± 3.751	1.148 ± 0.409*
CoV (ROI based)	3.350 ± 3.773	0.559 ± 0.450*
ICC (vertex based)	0.371 ± 0.095	0.787 ± 0.096
ICC (ROI based)	0.409	0.911
inferiortemporal		
R1 (1/s)	0.668 ± 0.035	0.632 ± 0.010*
CoV (vertex based)	4.625 ± 3.401	1.575 ± 0.514*

CoV (ROI based)	3.974 ± 3.548	0.547 ± 0.576*
ICC (vertex based)	0.313 ± 0.115	0.597 ± 0.145
ICC (ROI based)	0.347	0.795
isthmuscingulate		
R1 (1/s)	0.670 ± 0.036	0.641 ± 0.015*
CoV (vertex based)	4.786 ± 3.766	2.151 ± 0.535*
CoV (ROI based)	3.746 ± 4.016	0.837 ± 0.632*
ICC (vertex based)	0.267 ± 0.122	0.590 ± 0.127
ICC (ROI based)	0.320	0.817
lateraloccipital		
R1 (1/s)	0.674 ± 0.032	0.651 ± 0.018*
CoV (vertex based)	3.192 ± 2.488	1.170 ± 0.463*
CoV (ROI based)	2.659 ± 2.576	0.565 ± 0.449*
ICC (vertex based)	0.509 ± 0.096	0.815 ± 0.082
ICC (ROI based)	0.544	0.929
lateralorbitofrontal		
R1 (1/s)	0.650 ± 0.036	0.611 ± 0.016*
CoV (vertex based)	5.794 ± 4.097	2.137 ± 0.825*
CoV (ROI based)	4.814 ± 4.215	0.955 ± 0.846*
ICC (vertex based)	0.203 ± 0.103	0.600 ± 0.127
ICC (ROI based)	0.241	0.796
lingual		
R1 (1/s)	0.667 ± 0.040	0.637 ± 0.023*

CoV (vertex based)	4.390 ± 3.818	1.638 ± 0.328*
CoV (ROI based)	3.647 ± 4.032	0.692 ± 0.306*
ICC (vertex based)	0.402 ± 0.135	0.811 ± 0.101
ICC (ROI based)	0.407	0.954
medialorbitofrontal		
R1 (1/s)	0.645 ± 0.049	0.597 ± 0.016*
CoV (vertex based)	6.983 ± 5.840	2.803 ± 1.010*
CoV (ROI based)	5.690 ± 5.753	1.500 ± 0.860*
ICC (vertex based)	0.197 ± 0.134	0.515 ± 0.160
ICC (ROI based)	0.256	0.668
middletemporal		
R1 (1/s)	0.659 ± 0.031	0.631 ± 0.012*
CoV (vertex based)	3.995 ± 2.967	1.479 ± 0.453*
CoV (ROI based)	3.233 ± 2.991	0.600 ± 0.344*
ICC (vertex based)	0.358 ± 0.104	0.632 ± 0.119
ICC (ROI based)	0.419	0.881
parahippocampal		
R1 (1/s)	0.654 ± 0.031	0.627 ± 0.014*
CoV (vertex based)	5.221 ± 3.612	3.000 ± 0.752*
CoV (ROI based)	4.149 ± 4.125	1.566 ± 0.865*
ICC (vertex based)	0.223 ± 0.118	0.464 ± 0.155
ICC (ROI based)	0.190	0.533
paracentral		

R1 (1/s)	0.687 ± 0.033	0.656 ± 0.020*
CoV (vertex based)	4.185 ± 3.860	1.369 ± 0.478*
CoV (ROI based)	3.586 ± 3.816	0.558 ± 0.318*
ICC (vertex based)	0.291 ± 0.122	0.797 ± 0.083
ICC (ROI based)	0.285	0.953
parsopercularis		
R1 (1/s)	0.659 ± 0.039	0.621 ± 0.018*
CoV (vertex based)	5.072 ± 4.164	1.632 ± 0.576*
CoV (ROI based)	4.480 ± 4.355	0.759 ± 0.651*
ICC (vertex based)	0.304 ± 0.104	0.727 ± 0.103
ICC (ROI based)	0.305	0.882
parsorbitalis		
R1 (1/s)	0.656 ± 0.038	0.616 ± 0.018*
CoV (vertex based)	5.473 ± 4.371	1.712 ± 1.040*
CoV (ROI based)	5.128 ± 4.362	1.135 ± 1.004*
ICC (vertex based)	0.244 ± 0.093	0.638 ± 0.122
ICC (ROI based)	0.237	0.763
parstriangularis		
R1 (1/s)	0.656 ± 0.040	0.618 ± 0.019*
CoV (vertex based)	5.100 ± 4.176	1.597 ± 0.585*
CoV (ROI based)	4.542 ± 4.197	0.710 ± 0.457*
ICC (vertex based)	0.305 ± 0.116	0.758 ± 0.084
ICC (ROI based)	0.343	0.927

pericalcarine		
R1 (1/s)	0.687 ± 0.033	0.662 ± 0.022*
CoV (vertex based)	3.486 ± 3.007	1.356 ± 0.287*
CoV (ROI based)	2.859 ± 3.149	0.733 ± 0.350*
ICC (vertex based)	0.419 ± 0.102	0.833 ± 0.042
ICC (ROI based)	0.446	0.936
postcentral		
R1 (1/s)	0.685 ± 0.030	0.660 ± 0.019*
CoV (vertex based)	4.198 ± 3.459	1.573 ± 0.422*
CoV (ROI based)	3.346 ± 3.358	0.753 ± 0.361*
ICC (vertex based)	0.271 ± 0.137	0.750 ± 0.108
ICC (ROI based)	0.292	0.915
posteriorcingulate		
R1 (1/s)	0.679 ± 0.067	0.623 ± 0.019*
CoV (vertex based)	6.796 ± 5.690	2.251 ± 0.676*
CoV (ROI based)	6.228 ± 5.798	0.976 ± 0.566*
ICC (vertex based)	0.321 ± 0.097	0.602 ± 0.121
ICC (ROI based)	0.420	0.863
precentral		
R1 (1/s)	0.688 ± 0.029	0.662 ± 0.019*
CoV (vertex based)	4.129 ± 3.559	1.513 ± 0.521*
CoV (ROI based)	3.386 ± 3.457	0.687 ± 0.397*
ICC (vertex based)	0.261 ± 0.131	0.752 ± 0.103
ICC (ROI based)	0.265	0.922

precuneus		
R1 (1/s)	0.659 ± 0.036	0.628 ± 0.015*
CoV (vertex based)	4.538 ± 3.888	1.301 ± 0.349*
CoV (ROI based)	3.973 ± 4.012	0.609 ± 0.397*
ICC (vertex based)	0.296 ± 0.111	0.755 ± 0.109
ICC (ROI based)	0.317	0.912
rostralanteriorcingulate		
R1 (1/s)	0.676 ± 0.088	0.595 ± 0.016*
CoV (vertex based)	9.348 ± 7.859	2.299 ± 0.816*
CoV (ROI based)	9.052 ± 9.002	0.995 ± 0.652*
ICC (vertex based)	0.327 ± 0.121	0.560 ± 0.141
ICC (ROI based)	0.288	0.815
rostralmiddlefrontal		
R1 (1/s)	0.661 ± 0.042	0.621 ± 0.013*
CoV (vertex based)	4.976 ± 3.834	1.473 ± 0.691*
CoV (ROI based)	4.491 ± 3.942	0.793 ± 0.651*
ICC (vertex based)	0.366 ± 0.104	0.639 ± 0.127
ICC (ROI based)	0.391	0.776
superiorfrontal		
R1 (1/s)	0.658 ± 0.035	0.620 ± 0.014*
CoV (vertex based)	4.715 ± 3.933	1.684 ± 0.846*
CoV (ROI based)	4.023 ± 3.965	0.897 ± 0.679*
ICC (vertex based)	0.272 ± 0.120	0.642 ± 0.118

ICC (ROI based)	0.307	0.794
superiorparietal		
R1 (1/s)	0.671 ± 0.038	0.640 ± 0.017*
CoV (vertex based)	4.246 ± 3.620	1.173 ± 0.448*
CoV (ROI based)	3.696 ± 3.597	0.591 ± 0.430*
ICC (vertex based)	0.366 ± 0.116	0.820 ± 0.078
ICC (ROI based)	0.414	0.926
superiortemporal		
R1 (1/s)	0.655 ± 0.028	0.633 ± 0.017*
CoV (vertex based)	4.083 ± 3.115	1.636 ± 0.386*
CoV (ROI based)	3.143 ± 3.176	0.688 ± 0.294*
ICC (vertex based)	0.296 ± 0.169	0.723 ± 0.125
ICC (ROI based)	0.326	0.922
supramarginal		
R1 (1/s)	0.660 ± 0.032	0.632 ± 0.015*
CoV (vertex based)	4.271 ± 3.758	1.382 ± 0.478*
CoV (ROI based)	3.473 ± 3.637	0.754 ± 0.385*
ICC (vertex based)	0.292 ± 0.117	0.741 ± 0.096
ICC (ROI based)	0.334	0.882
frontalpole		
R1 (1/s)	0.647 ± 0.035	0.607 ± 0.015*
CoV (vertex based)	4.732 ± 3.490	1.601 ± 0.705*
CoV (ROI based)	4.321 ± 3.643	1.105 ± 0.835*



ICC (vertex based)	0.319 ± 0.052	0.642 ± 0.060
ICC (ROI based)	0.332	0.727
temporalpole		
R1 (1/s)	0.646 ± 0.029	0.627 ± 0.014
CoV (vertex based)	4.552 ± 2.950	2.521 ± 0.900*
CoV (ROI based)	3.097 ± 3.149	1.316 ± 0.705
ICC (vertex based)	0.269 ± 0.116	0.539 ± 0.164
ICC (ROI based)	0.374	0.628
transversetemporal		
R1 (1/s)	0.683 ± 0.029	0.665 ± 0.028*
CoV (vertex based)	3.625 ± 3.244	1.575 ± 0.444*
CoV (ROI based)	2.835 ± 3.268	0.724 ± 0.532*
ICC (vertex based)	0.344 ± 0.095	0.859 ± 0.058
ICC (ROI based)	0.360	0.955
insula		
R1 (1/s)	0.653 ± 0.041	0.616 ± 0.016*
CoV (vertex based)	5.372 ± 4.224	2.286 ± 0.443*
CoV (ROI based)	4.263 ± 4.673	0.760 ± 0.305*
ICC (vertex based)	0.314 ± 0.113	0.579 ± 0.139
ICC (ROI based)	0.345	0.902