Appendix

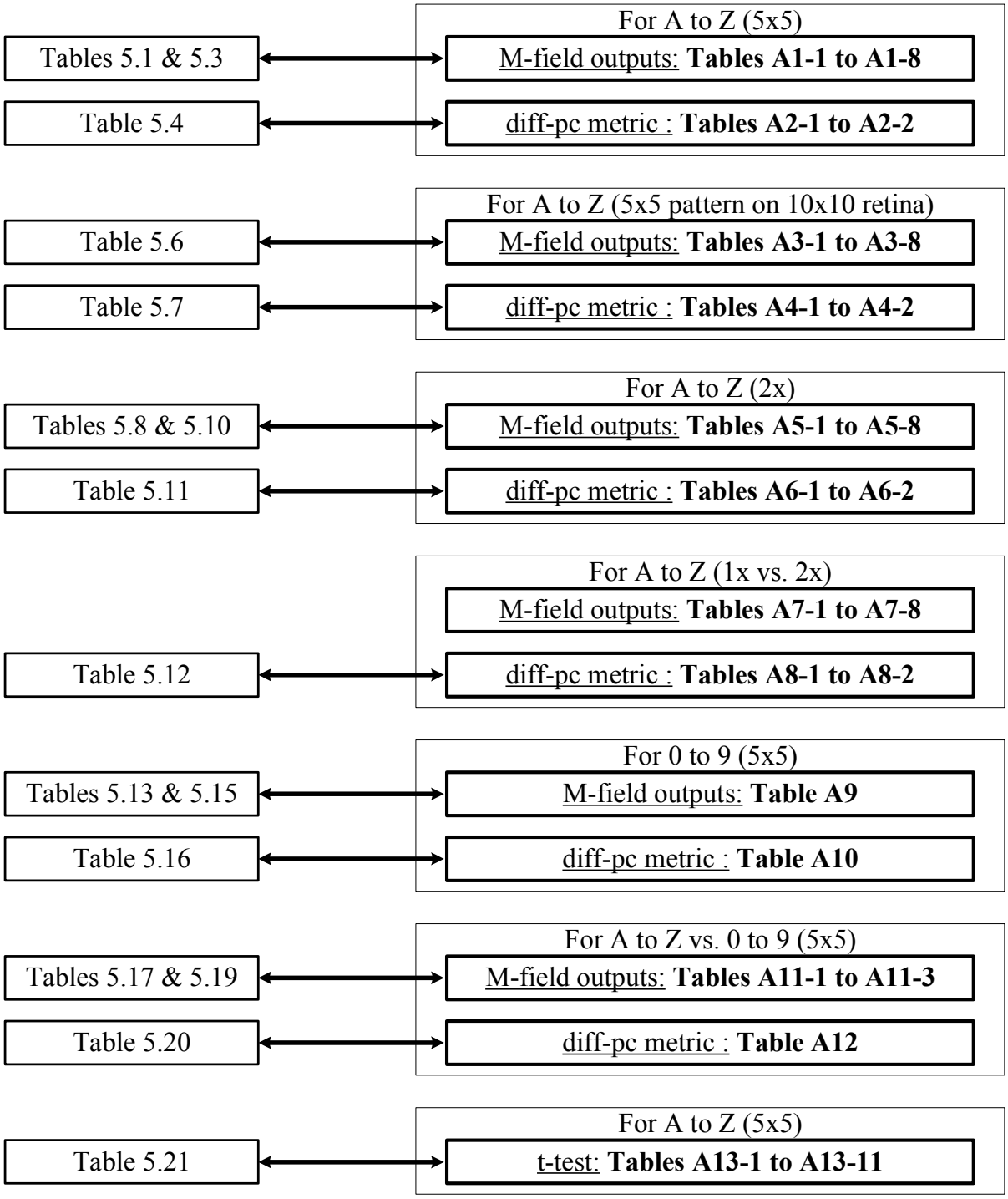

Figure A1. Guideline for referring raw data against the results shown in chapter 5. In addition figures A2 and A3-1 are histograms for statistical t-test and ANOVA f-test respectively. Figures A3-2 and A3-3 are the f-test results for A vs. A and A vs. F (results for A vs. P is shown in Ch.5).

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
A	M (x5)	0.5347	0.5358	0.5347	0.5358	0.5358	0.5347	0.5358	0.5347	0.5347	0.0064	0.5347	0.0057	0.5347
	M (x6)	0.5347	$3.93\cdot10^{-4}$	0.5346	0.0016	$3.915\cdot10^{-4}$	0.5346	$2.45\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5347	0.5374	0.5346
	Miss.	0	3.9971	0.0002693	3.9882	3.9971	0.0002693	3.9982	0.0002693	0.0002693	3.9526	0.0003441	3.9572	0.0002693
B	M (x5)	$3.865\cdot10^{-4}$	0.5346	$4.102\cdot10^{-4}$	$4.315\cdot10^{-4}$	0.5346	$4.075\cdot10^{-4}$	0.5349	$4.065\cdot10^{-4}$	$4.112\cdot10^{-4}$	$3.58\cdot10^{-4}$	$3.747\cdot10^{-4}$	$3.432\cdot10^{-4}$	$4.09\cdot10^{-4}$
	M (x6)	0.5358	0.5346	0.5356	0.5354	0.5346	0.5356	$4.795\cdot10^{-4}$	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	Miss.	3.9971	0	3.9969	3.9968	0	3.997	3.9964	3.997	3.9969	3.9973	3.9972	3.9974	3.9969
C	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0032	0.0028	0.5346
	M (x6)	0.5347	$4.087\cdot10^{-4}$	0.5346	0.5346	$4.08\cdot10^{-4}$	0.5346	$2.612\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.9969	0	0.0002244	3.997	0	3.998	0	0	3.9781	3.9761	3.9789	0
D	M (x5)	0.0016	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0016	0.0016	0.0015	0.5346
	M (x6)	0.5358	$4.317\cdot10^{-4}$	0.5346	0.5346	$4.312\cdot10^{-4}$	0.5346	$2.73\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	Miss.	3.9882	3.9968	0.0002244	0	3.9968	0.0002244	3.998	0.0002244	0.0002244	3.988	3.9878	3.9886	0.0002244
E	M (x5)	$3.892\cdot10^{-4}$	0.5346	$4.14\cdot10^{-4}$	$4.315\cdot10^{-4}$	0.5346	$4.102\cdot10^{-4}$	0.5349	$4.147\cdot10^{-4}$	$4.072\cdot10^{-4}$	$3.502\cdot10^{-4}$	$3.757\cdot10^{-4}$	$3.447\cdot10^{-4}$	$4.1\cdot10^{-4}$
	M (x6)	0.5358	0.5346	0.5356	0.5354	0.5346	0.5356	$4.75\cdot10^{-4}$	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	Miss.	3.9971	0	3.9969	3.9968	0	3.9969	3.9965	3.9969	3.997	3.9974	3.9972	3.9974	3.9969
F	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0032	0.0028	0.5346
	M (x6)	0.5347	$4.12\cdot10^{-4}$	0.5346	0.5346	$4.062\cdot10^{-4}$	0.5346	$2.572\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.9969	0	0.0002244	3.997	0	3.9981	0	0	3.976	3.7481	3.9789	0
G	M (x5)	$2.455\cdot10^{-4}$	$4.745\cdot10^{-4}$	$2.565\cdot10^{-4}$	$2.73\cdot10^{-4}$	$4.85\cdot10^{-4}$	$2.60\cdot10^{-4}$	0.5345	$2.547\cdot10^{-4}$	$2.535\cdot10^{-4}$	$2.247\cdot10^{-4}$	$2.412\cdot10^{-4}$	$2.307\cdot10^{-4}$	$2.57\cdot10^{-4}$
	M (x6)	0.5358	0.5349	0.5356	0.5354	0.5349	0.5356	0.5345	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	Miss.	3.9982	3.9965	3.9981	3.998	3.9964	3.9981	0	3.9981	3.9981	3.9983	3.9982	3.9983	3.9981

Table A1-1. Experimental data of Comparation network with Capital English letters, A to G vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	M (x5)	0.5347	0.5347	0.5358	0.5358	0.5358	0.5358	0.0062	0.5347	0.0062	0.5358	0.0063	0.5347	0.5347
	M (x6)	0.5346	0.5347	0.0016	0.0016	$6.29\cdot10^{-4}$	$3.877\cdot10^{-4}$	0.5366	0.5346	0.5366	0.0016	0.5366	0.5347	0.5346
	Miss.	0.0002693	0	3.9882	3.9882	3.9953	3.9971	3.9536	0.0002693	3.9535	3.9882	3.9532	0.0003441	0.0002693
B	M (x5)	$4.072\cdot10^{-4}$	$3.862\cdot10^{-4}$	$4.315\cdot10^{-4}$	$4.315\cdot10^{-4}$	$4.237\cdot10^{-4}$	0.5346	$3.575\cdot10^{-4}$	$4.085\cdot10^{-4}$	$3.685\cdot10^{-4}$	$4.327\cdot10^{-4}$	$3.545\cdot10^{-4}$	$3.705\cdot10^{-4}$	$4.09\cdot10^{-4}$
	M (x6)	0.5356	0.5358	0.5354	0.5354	0.5351	0.5346	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	Miss.	3.997	3.9971	3.9968	3.9968	3.9968	0	3.9973	3.9969	3.9973	3.9968	3.9974	3.9972	3.9969
C	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0032	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.39\cdot10^{-4}$	$4.08\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.997	3.9781	0	3.9782	0.0002244	3.9782	3.9761	0
D	M (x5)	0.5346	0.0016	0.5346	0.5346	0.5354	0.5354	0.0016	0.5346	0.0016	0.5346	0.0016	0.0016	0.5346
	M (x6)	0.5346	0.5358	0.5346	0.5346	$5.967\cdot10^{-4}$	$4.317\cdot10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	Miss.	0.0002244	3.9882	0	0	3.9955	3.9968	3.988	0.0002244	3.988	0	3.988	3.9879	0.0002244
E	M (x5)	$4.097\cdot10^{-4}$	$3.87\cdot10^{-4}$	$4.317\cdot10^{-4}$	$4.32\cdot10^{-4}$	$4.282\cdot10^{-4}$	0.5346	$3.562\cdot10^{-4}$	$4.142\cdot10^{-4}$	$3.62\cdot10^{-4}$	$4.315\cdot10^{-4}$	$3.512\cdot10^{-4}$	$3.747\cdot10^{-4}$	$4.077\cdot10^{-4}$
	M (x6)	0.5356	0.5358	0.5354	0.5354	0.5351	0.5346	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	Miss.	3.9969	3.9971	3.9968	3.9968	3.9968	0	3.9973	3.9969	3.9973	3.9968	3.9974	3.9972	3.997
F	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0032	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.395\cdot10^{-4}$	$4.092\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.9969	3.9781	0	3.9782	0.0002244	3.9781	3.9761	0
G	M (x5)	$2.617\cdot10^{-4}$	$2.502\cdot10^{-4}$	$2.727\cdot10^{-4}$	$2.767\cdot10^{-4}$	$3.320\cdot10^{-4}$	$4.772\cdot10^{-4}$	$2.282\cdot10^{-4}$	$2.565\cdot10^{-4}$	$2.272\cdot10^{-4}$	$2.78\cdot10^{-4}$	$2.325\cdot10^{-4}$	$2.342\cdot10^{-4}$	$2.56\cdot10^{-4}$
	M (x6)	0.5356	0.5358	0.5354	0.5354	0.5351	0.5349	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	Miss.	3.998	3.9981	3.998	3.9979	3.9975	3.9964	3.9983	3.9981	3.9983	3.9979	3.9983	3.9983	3.9981

Table A1-2. Experimental data of Comparation network with Capital English letters, A to G vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
H	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0033	0.0028	0.5346
	M (x6)	0.5347	$4.087\cdot10^{-4}$	0.5346	0.5346	$4.085\cdot10^{-4}$	0.5346	$2.542\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.9969	0	0.0002244	3.9969	0	3.9981	0	0	3.9781	3.9757	3.9789	0
I	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0032	0.0028	0.5346
	M (x6)	0.5347	$4.105\cdot10^{-4}$	0.5346	0.5346	$4.082\cdot10^{-4}$	0.5346	$2.552\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.9969	0	0.0002244	3.997	0	3.9981	0	0	3.9781	3.9759	3.9789	0
J	M (x5)	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	M (x6)	0.0063	$3.562\cdot10^{-4}$	0.0029	0.0016	$3.507\cdot10^{-4}$	0.0029	$2.335\cdot10^{-4}$	0.0029	0.0029	0.5348	0.5347	0.5350	0.0029
	Miss.	3.953	3.9973	3.9781	3.988	3.9974	3.9782	3.9983	3.9782	3.9782	0	0.0009198	0.0013607	3.9781
K	M (x5)	0.5347	0.5361	0.5360	0.5360	0.5361	0.5360	0.5361	0.5360	0.5360	0.5347	0.5347	0.0199	0.5360
	M (x6)	0.5347	$3.745\cdot10^{-4}$	0.0032	0.0016	$3.762\cdot10^{-4}$	0.0032	$2.452\cdot10^{-4}$	0.0033	0.0032	0.5348	0.5347	0.5373	0.0033
	Miss.	0.0003441	3.9972	3.976	3.9879	3.9972	3.9761	3.9982	3.9753	3.9762	0.0009198	0	3.8518	3.9755
L	M (x5)	0.5374	0.5375	0.5374	0.5374	0.5375	0.5374	0.5375	0.5374	0.5374	0.5350	0.5373	0.5350	0.5374
	M (x6)	0.0057	$3.487\cdot10^{-4}$	0.0028	0.0015	$3.395\cdot10^{-4}$	0.0028	$2.19\cdot10^{-4}$	0.0028	0.0028	0.5348	0.0242	0.5350	0.0028
	Miss.	3.9573	3.9974	3.9789	3.9886	3.9975	3.9789	3.9984	3.9789	3.9789	0.0013607	3.8198	0	3.9789
M	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0033	0.0028	0.5346
	M (x6)	0.5347	$4.08\cdot10^{-4}$	0.5346	0.5346	$4.09\cdot10^{-4}$	0.5346	$2.547\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.997	0	0.0002244	3.9969	0	3.9981	0	0	3.9782	3.9754	3.9789	0
N	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0032	0.0028	0.5346
	M (x6)	0.5347	$4.08\cdot10^{-4}$	0.5346	0.5346	$4.075\cdot10^{-4}$	0.5346	$2.557\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.997	0	0.0002244	3.997	0	3.9981	0	0	3.9781	3.9761	3.9789	0

Table A1-3. Experimental data of Comparation network with Capital English letters, H to N vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
H	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0033	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.372\cdot10^{-4}$	$4.12\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.9969	3.9781	0	3.9782	0.0002244	3.9781	3.9757	0
I	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0032	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.385\cdot10^{-4}$	$4.122\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.9969	3.9781	0	3.9781	0.0002244	3.9782	3.9764	0
J	M (x5)	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	M (x6)	0.0029	0.0062	0.0016	0.0016	$5.665\cdot10^{-4}$	$3.58\cdot10^{-4}$	0.5348	0.0029	0.5348	0.0016	0.5348	0.5347	0.0029
	Miss.	3.9781	3.9535	3.988	3.988	3.9958	3.9973	0	3.9781	0	3.988	0	0.0009198	3.9781
K	M (x5)	0.5360	0.5347	0.5360	0.5360	0.5361	0.5361	0.5347	0.5360	0.5347	0.5360	0.5347	0.5347	0.5360
	M (x6)	0.0033	0.5347	0.0016	0.0016	$6.032\cdot10^{-4}$	$3.7\cdot10^{-4}$	0.5348	0.0033	0.5348	0.0016	0.5348	0.5347	0.0032
	Miss.	3.9753	0.0003441	3.9878	3.9879	3.9955	3.9878	0.0009198	3.9752	0.0009198	3.9879	0.0009198	0	3.9762
L	M (x5)	0.5374	0.5374	0.5374	0.5374	0.5375	0.5375	0.5350	0.5374	0.5350	0.5374	0.5350	0.5373	0.5374
	M (x6)	0.0028	0.0057	0.0015	0.0015	$5.427\cdot10^{-4}$	$3.512\cdot10^{-4}$	0.5348	0.0028	0.5348	0.0015	0.5348	0.0243	0.0028
	Miss.	3.9788	3.9573	3.9886	3.9885	3.996	3.9974	0.0013607	3.9789	0.0013607	3.9886	0.0013607	3.819	3.9789
M	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0033	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.37\cdot10^{-4}$	$4.11\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.9969	3.9781	0	3.9782	0.0002244	3.9781	3.9756	0
N	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0032	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.355\cdot10^{-4}$	$4.077\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9953	3.997	3.9781	0	3.9781	0.0002244	3.9781	3.9758	0

Table A1-4. Experimental data of Comparation network with Capital English letters, H to N vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
O	M (x5)	0.5347	0.5358	0.5347	0.5358	0.5358	0.5347	0.5358	0.5347	0.5347	0.0063	0.5347	0.0058	0.5347
	M (x6)	0.5347	$3.922\cdot10^{-4}$	0.5346	0.0016	$3.87\cdot10^{-4}$	0.5346	$2.522\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5347	0.5374	0.5346
	Miss.	0	3.9971	0.0002693	3.9882	3.9971	0.0002693	3.9981	0.0002693	0.0002693	3.9533	0.0003441	3.9572	0.0002693
P	M (x5)	0.0016	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0016	0.0016	0.0015	0.5346
	M (x6)	0.5358	$4.322\cdot10^{-4}$	0.5346	0.5346	$4.322\cdot10^{-4}$	0.5346	$2.777\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	Miss.	3.9882	3.9968	0.0002244	0	3.9968	0.0002244	3.9979	0.0002244	0.0002244	3.988	3.9879	3.9885	0.0002244
Q	M (x5)	0.0016	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0016	0.0016	0.0015	0.5346
	M (x6)	0.5358	$4.317\cdot10^{-4}$	0.5346	0.5346	$4.32\cdot10^{-4}$	0.5346	$2.772\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	Miss.	3.9882	3.9968	0.0002244	0	3.9968	0.0002244	3.9979	0.0002244	0.0002244	3.988	3.9878	3.9885	0.0002244
R	M (x5)	$6.257\cdot10^{-4}$	0.5351	$6.395\cdot10^{-4}$	$5.97\cdot10^{-4}$	0.5351	$6.395\cdot10^{-4}$	0.5351	$6.387\cdot10^{-4}$	$6.385\cdot10^{-4}$	$5.7\cdot10^{-4}$	$6.01\cdot10^{-4}$	$5.45\cdot10^{-4}$	$6.407\cdot10^{-4}$
	M (x6)	0.5358	$4.335\cdot10^{-4}$	0.5356	0.5354	$4.312\cdot10^{-4}$	0.5356	$3.335\cdot10^{-4}$	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	Miss.	3.9953	3.9968	3.9952	3.9955	3.9968	3.9952	3.9975	3.9952	3.9952	3.9958	3.9955	3.9959	3.9952
S	M (x5)	$3.935\cdot10^{-4}$	0.5346	$4.097\cdot10^{-4}$	$4.32\cdot10^{-4}$	0.5346	$4.09\cdot10^{-4}$	0.5349	$4.1\cdot10^{-4}$	$4.09\cdot10^{-4}$	$3.58\cdot10^{-4}$	$3.722\cdot10^{-4}$	$3.49\cdot10^{-4}$	$4.172\cdot10^{-4}$
	M (x6)	0.5358	0.5346	0.5356	0.5354	0.5346	0.5356	$4.742\cdot10^{-4}$	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	Miss.	3.9971	0	3.9969	3.9968	0	3.9969	3.9965	3.9969	3.9969	3.9973	3.9972	3.9974	3.9969
T	M (x5)	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	M (x6)	0.0062	$3.59\cdot10^{-4}$	0.0029	0.0016	$3.557\cdot10^{-4}$	0.0029	$2.297\cdot10^{-4}$	0.0029	0.0029	0.5348	0.5347	0.5350	0.0029
	Miss.	3.9535	3.9973	3.9781	3.988	3.9879	3.9781	3.9983	3.9781	3.9781	0	0.0009198	0.0013607	3.9781
U	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0032	0.0028	0.5346
	M (x6)	0.5347	$4.092\cdot10^{-4}$	0.5346	0.5346	$4.075\cdot10^{-4}$	0.5346	$2.612\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.9969	0	0.0002244	3.997	0	3.998	0	0	3.9781	3.976	3.9788	0

Table A1-5. Experimental data of Comparation network with Capital English letters, O to U vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
O	M (x5)	0.5347	0.5347	0.5358	0.5358	0.5358	0.5358	0.0062	0.5347	0.0063	0.5358	0.0062	0.5347	0.5347
	M (x6)	0.5346	0.5347	0.0016	0.0016	$6.257 \cdot 10^{-4}$	$3.872 \cdot 10^{-4}$	0.5366	0.5346	0.5366	0.0016	0.5366	0.5347	0.5346
	Miss.	0.0002693	0	3.9882	3.9882	3.9953	3.9971	3.9537	0.0002693	3.9531	3.9882	3.9535	0.0003441	0.0002693
P	M (x5)	0.5346	0.0016	0.5346	0.5346	0.5354	0.5354	0.0016	0.5346	0.0016	0.5346	0.0016	0.0016	0.5346
	M (x6)	0.5346	0.5358	0.5346	0.5346	$5.97 \cdot 10^{-4}$	$4.315 \cdot 10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	Miss.	0.0002244	3.9882	0	0	3.9955	3.9968	3.988	0.0002244	3.988	0	3.988	3.9878	0.0002244
Q	M (x5)	0.5346	0.0016	0.5346	0.5346	0.5354	0.5354	0.0016	0.5346	0.0016	0.5346	0.0016	0.0016	0.5346
	M (x6)	0.5346	0.5358	0.5346	0.5346	$5.995 \cdot 10^{-4}$	$4.312 \cdot 10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	Miss.	0.0002244	3.9882	0	0	3.9955	3.9968	3.988	0.0002244	3.988	0	3.988	3.9878	0.0002244
R	M (x5)	$6.395 \cdot 10^{-4}$	$6.287 \cdot 10^{-4}$	$6.032 \cdot 10^{-4}$	$6.047 \cdot 10^{-4}$	0.5346	0.5351	$5.652 \cdot 10^{-4}$	$6.35 \cdot 10^{-4}$	$5.635 \cdot 10^{-4}$	$5.922 \cdot 10^{-4}$	$5.64 \cdot 10^{-4}$	$6.082 \cdot 10^{-4}$	$6.377 \cdot 10^{-4}$
	M (x6)	0.5356	0.5358	0.5354	0.5354	0.5346	$4.312 \cdot 10^{-4}$	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	Miss.	3.9952	3.9953	3.9955	3.9955	0	3.9968	3.9958	3.9953	3.9958	3.9956	3.9958	3.9955	3.9952
S	M (x5)	$4.075 \cdot 10^{-4}$	$3.925 \cdot 10^{-4}$	$4.32 \cdot 10^{-4}$	$4.32 \cdot 10^{-4}$	$4.315 \cdot 10^{-4}$	0.5346	$3.517 \cdot 10^{-4}$	$4.145 \cdot 10^{-4}$	$3.63 \cdot 10^{-4}$	$4.322 \cdot 10^{-4}$	$3.505 \cdot 10^{-4}$	$3.825 \cdot 10^{-4}$	$4.087 \cdot 10^{-4}$
	M (x6)	0.5356	0.5358	0.5354	0.5354	0.5351	0.5346	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	Miss.	3.997	3.9971	3.9968	3.9968	3.9968	0	3.9974	3.9969	3.9973	3.9968	3.9974	3.9971	3.9969
T	M (x5)	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	M (x6)	0.0029	0.0062	0.0016	0.0016	$5.745 \cdot 10^{-4}$	$3.557 \cdot 10^{-4}$	0.5348	0.0029	0.5348	0.0016	0.5348	0.5347	0.0029
	Miss.	3.9781	3.9535	3.988	3.988	3.9957	3.9973	0	3.9781	0	3.988	0	0.0009198	3.9782
U	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0034	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.40 \cdot 10^{-4}$	$4.082 \cdot 10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.997	3.9782	0	3.9782	0.0002244	3.9781	3.9746	0

Table A1-6. Experimental data of Comparation network with Capital English letters, O to U vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
V	M (x5)	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	M (x6)	0.0063	$3.575\cdot10^{-4}$	0.0029	0.0016	$3.502\cdot10^{-4}$	0.0029	$2.36\cdot10^{-4}$	0.0029	0.0029	0.5348	0.5347	0.5350	0.0029
	Miss.	3.9533	3.9973	3.9781	3.988	3.9974	3.9782	3.9982	3.9781	3.9781	0	0.0009198	0.0013607	3.9781
W	M (x5)	0.0016	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0016	0.0016	0.0015	0.5346
	M (x6)	0.5358	$4.315\cdot10^{-4}$	0.5346	0.5346	$4.322\cdot10^{-4}$	0.5346	$2.757\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	Miss.	3.9882	3.9968	0.0002244	0	3.9968	0.0002244	3.9979	0.0002244	0.0002244	3.988	3.9879	3.9886	0.0002244
X	M (x5)	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	M (x6)	0.0062	$3.63\cdot10^{-4}$	0.0029	0.0016	$3.625\cdot10^{-4}$	0.0029	$2.267\cdot10^{-4}$	0.0029	0.0029	0.5348	0.5347	0.5350	0.0029
	Miss.	3.9535	3.9973	3.9781	3.988	3.9973	3.9781	3.9983	3.9781	3.9782	0	0.0009198	0.0013607	3.9781
Y	M (x5)	0.5347	0.5361	0.5360	0.5360	0.5361	0.5360	0.5361	0.5360	0.5360	0.5347	0.5347	0.0201	0.5360
	M (x6)	0.5347	$3.732\cdot10^{-4}$	0.0032	0.0016	$3.74\cdot10^{-4}$	0.0032	$2.375\cdot10^{-4}$	0.0032	0.0033	0.5348	0.5347	0.5373	0.0033
	Miss.	0.0003441	3.9972	3.9763	3.9878	3.9972	3.9765	3.9982	3.9762	3.9754	0.0009198	0	3.8506	3.9754
Z	M (x5)	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0029	0.0032	0.0028	0.5346
	M (x6)	0.5347	$4.122\cdot10^{-4}$	0.5346	0.5346	$4.102\cdot10^{-4}$	0.5346	$2.59\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	Miss.	0.0002693	3.9969	0	0.0002244	3.9969	0	3.9981	0	0	3.9781	3.9759	3.9789	0

Table A1-7. Experimental data of Comparation network with Capital English letters, V to Z vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
V	M (x5)	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	M (x6)	0.0029	0.0062	0.0016	0.0016	$5.69\cdot10^{-4}$	$3.627\cdot10^{-4}$	0.5348	0.0029	0.5348	0.0016	0.5348	0.5347	0.0029
	Miss.	3.9781	3.9537	3.988	3.988	3.9958	3.9973	0	3.9782	0	3.988	0	0.0009198	3.9781
W	M (x5)	0.5346	0.0016	0.5346	0.5346	0.5354	0.5354	0.0016	0.5346	0.0016	0.5346	0.0016	0.0016	0.5346
	M (x6)	0.5346	0.5358	0.5346	0.5346	$6.042\cdot10^{-4}$	$4.317\cdot10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	Miss.	0.0002244	3.9882	0	0	3.9955	3.9968	3.988	0.0002244	3.988	0	3.988	3.9878	0.0002244
X	M (x5)	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	M (x6)	0.0029	0.0062	0.0016	0.0016	$5.685\cdot10^{-4}$	$3.517\cdot10^{-4}$	0.5348	0.0029	0.5348	0.0016	0.5348	0.5347	0.0029
	Miss.	3.9781	3.9535	3.988	3.988	3.9958	3.9974	0	3.9781	0	3.988	0	0.0009198	3.9781
Y	M (x5)	0.5360	0.5347	0.5360	0.5360	0.5361	0.5361	0.5347	0.5360	0.5347	0.5360	0.5347	0.5347	0.5360
	M (x6)	0.0034	0.5347	0.0016	0.0016	$6.06\cdot10^{-4}$	$3.812\cdot10^{-4}$	0.5348	0.0032	0.5348	0.0016	0.5348	0.5347	0.0032
	Miss.	3.9748	0.0003441	3.9878	3.9879	3.9955	3.9972	0.0009198	3.9763	0.0009198	3.9878	0.0009198	0	3.9765
Z	M (x5)	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0029	0.5346	0.0029	0.5346	0.0029	0.0032	0.5346
	M (x6)	0.5346	0.5347	0.5346	0.5346	$6.382\cdot10^{-4}$	$4.112\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	Miss.	0	0.0002693	0.0002244	0.0002244	3.9952	3.9969	3.9781	0	3.9781	0.0002244	3.9781	3.9764	0

Table A1-8. Experimental data of Comparation network with Capital English letters, V to Z vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Comparand-1 Patterns (5x5)		Comparand-2 Patterns (5x5)				
		G	B, E, S	R	D, P, Q, W	C, F, H, I, M, N, U, Z
G	α	0	-	-	-	-
	⍺	-	0.1186 (1) ⟹ 0.0474	0.2160 (2) ⟹ 0.0691	0.3529 (4) ⟹ 0.0811	0.4027 (5) ⟹ 0.0885
B, E, S	α	-	0	-	-	-
	⍺	0.1186 (1) ⟹ 0.0474	-	0.1105 (1) ⟹ 0.0442	0.2658 (3) ⟹ 0.0664	0.3223 (4) ⟹ 0.0741
R	α	-	-	0	-	-
	⍺	0.2160 (2) ⟹ 0.0691	0.1105 (1) ⟹ 0.0442	-	0.1746 (2) ⟹ 0.0558	0.2380 (3) ⟹ 0.0595
D, P, Q, W	α	-	-	-	0	0.0769 (1) ⟹ 0.0307
	⍺	0.3529 (4) ⟹ 0.0811	0.2659 (3) ⟹ 0.0664	0.1746 (2) ⟹ 0.0558	-	-
C, F, H, I, M, N, U, Z	α	-	-	-	0.0769 (1) ⟹ 0.0307	0
	⍺	0.4027 (5) ⟹ 0.0885	0.3223 (4) ⟹ 0.0741	0.2380 (3) ⟹ 0.0595	-	-
A, O	α	-	-	-	-	0.0725 (1) ⟹ 0.0290
	⍺	0.4460 (6) ⟹ 0.0892	0.3715 (5) ⟹ 0.0817	0.2933 (4) ⟹ 0.0674	0.1439 (2) ⟹ 0.0460	-
K, Y	α	-	-	-	-	-
	⍺	0.4814 (7) ⟹ 0.0962	0.4117 (6) ⟹ 0.0823	0.3385 (5) ⟹ 0.0744	0.1987 (3) ⟹ 0.0496	0.1319 (2) ⟹ 0.0422
J, T, V, X	α	-	-	-	-	-
	⍺	0.5382 (9) ⟹ 0.1076	0.4760 (8) ⟹ 0.0952	0.4109 (7) ⟹ 0.0821	0.2864 (5) ⟹ 0.0630	0.2269 (4) ⟹ 0.0521
L	α	-	-	-	-	-
	⍺	0.5773 (11) ⟹ 0.1154	0.5205 (10) ⟹ 0.1041	0.4608 (9) ⟹ 0.0921	0.3469 (7) ⟹ 0.0693	0.2924 (6) ⟹ 0.0584

Table A2-1. Demonstration (Part-1) of the diff-pc metric for the case of comparing patterns from 26 Capital English letters of retinal map size, 5x5. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. Thus (px) → ppx. The ppx values are: (1) → 0.4, (2) → 0.32, (3) → 0.25, (4) → 0.23, (5) → 0.22, (6 to 10) → 0.8, (11 to 20) → 0.8•2 = 1.6, (21 to 30) → 0.8•3 = 2.4, (31 to 40) → 0.8•4 = 3.2, (41 to 50) → 0.8•5 = 4, (51 to 60) → 0.8•6 = 4.8 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A1-1 to A1-8.

Comparand-1 Patterns (5x5)		Comparand-2 Patterns (5x5) A, O	K, Y	J, T, V, X	L
G	α	-	-	-	-
	⍺	0.4460 (6) ⟹ 0.0892	0.4814 (7) ⟹ 0.0962	0.5382 (9) ⟹ 0.1076	0.5773 (11) ⟹ 0.1154
B, E, S	α	-	-	-	-
	⍺	0.3715 (5) ⟹ 0.0817	0.4117 (6) ⟹ 0.0823	0.4760 (8) ⟹ 0.0952	0.5205 (10) ⟹ 0.1041
R	α	-	-	-	-
	⍺	0.2933 (4) ⟹ 0.0674	0.3385 (5) ⟹ 0.0744	0.4109 (7) ⟹ 0.0821	0.4608 (9) ⟹ 0.0921
D, P, Q, W	α	-	-	-	-
	⍺	0.1439 (2) ⟹ 0.0460	0.1987 (3) ⟹ 0.0496	0.2864 (5) ⟹ 0.0630	0.3469 (7) ⟹ 0.0693
C, F, H, I, M, N, U, Z	α	0.0725 (1) ⟹ 0.0290	-	-	-
	⍺	-	0.1319 (2) ⟹ 0.0422	0.2269 (4) ⟹ 0.0521	0.2924 (6) ⟹ 0.0584
A, O	α	0	0.0640 (1) ⟹ 0.0256	-	-
	⍺	-	-	0.1664 (3) ⟹ 0.0416	0.2371 (5) ⟹ 0.0521
K, Y	α	0.0640 (1) ⟹ 0.0256	0	0.1094 (2) ⟹ 0.0350	-
	⍺	-	-	-	0.1849 (4) ⟹ 0.0425
J, T, V, X	α	-	0.1094 (2) ⟹ 0.0350	0	0.0848 (2) ⟹ 0.0271
	⍺	0.1664 (3) ⟹ 0.0416	-	-	-
L	α	-	-	0.0848 (2) ⟹ 0.0271	0
	⍺	0.2371 (5) ⟹ 0.0521	0.1849 (4) ⟹ 0.0425	-	-

Table A2-2. Demonstration (Part-2) of the diff-pc metric for the case of comparing patterns from 26 Capital English letters of retinal map size, 5x5. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. Thus (px) → ppx. The ppx values are: (1) → 0.4, (2) → 0.32, (3) → 0.25, (4) → 0.23, (5) → 0.22, (6 to 10) → 0.8, (11 to 20) → 0.8•2 = 1.6, (21 to 30) → 0.8•3 = 2.4, (31 to 40) → 0.8•4 = 3.2, (41 to 50) → 0.8•5 = 4, (51 to 60) → 0.8•6 = 4.8 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A1-1 to A1-8.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
A	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0	0.001301	0.0003289	0.0006131	0.001301	0.0003289	0.0014879	0.0003289	0.0003289	0.0012856	0.0003663	0.0024958	0.0003289
B	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.001301	0	0.0009795	0.0006879	0	0.0009795	0.0001795	0.0009795	0.0009795	0.0025788	0.0016747	0.0038034	0.0009795
C	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0
D	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0006131	0.0006879	0.0002916	0	0.0006879	0.0002916	0.0008674	0.0002916	0.0002916	0.0018986	0.0009794	0.0031085	0.0002916
E	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.001301	0	0.0009795	0.0006879	0	0.0009795	0.0001795	0.0009795	0.0009795	0.0025788	0.0016747	0.0038034	0.0009795
F	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0
G	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0014879	0.0001795	0.001159	0.0008674	0.0001795	0.001159	0	0.001159	0.001159	0.0027656	0.0018616	0.0039828	0.001159

Table A3-1. Experimental data of Comparation network with Capital English letters, A to G vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0003289	0	0.0006131	0.0006131	0.0010991	0.001301	0.0012856	0.0003289	0.0012856	0.0006131	0.0012856	0.0003663	0.0003289
B	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0009795	0.001301	0.0006879	0.0006879	0.0002094	0	0.0025788	0.0009795	0.0025788	0.0006879	0.0025788	0.0016747	0.0009795
C	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0
D	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0002916	0.0006131	0	0	0.0004860	0.0006879	0.0018986	0.0002916	0.0018986	0	0.0018986	0.0009794	0.0002916
E	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0009795	0.001301	0.0006879	0.0006879	0.0002094	0	0.0025788	0.0009795	0.0025788	0.0006879	0.0025788	0.0016747	0.0009795
F	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0
G	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.001159	0.0014879	0.0008674	0.0008674	0.0003889	0.0001795	0.0027656	0.001159	0.0027656	0.0008674	0.0027656	0.0018616	0.001159

Table A3-2. Experimental data of Comparation network with Capital English letters, A to G vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
H	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0
I	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0
J	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0012856	0.0025788	0.0016071	0.0018986	0.0025788	0.0016071	0.0027656	0.0016071	0.0016071	0	0.0009044	0.001218	0.0016071
K	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003663	0.0016747	0.0006953	0.0009794	0.0016747	0.0006953	0.0018616	0.0006953	0.0006953	0.0009044	0	0.0021296	0.0006953
L	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0024958	0.0038034	0.0028246	0.0031085	0.0038034	0.0028246	0.0039828	0.0028246	0.0028246	0.001218	0.0021296	0	0.0028246
M	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0
N	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0

Table A3-3. Experimental data of Comparation network with Capital English letters, H to N vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
H	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0
I	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0
J	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0016071	0.0012856	0.0018986	0.0018986	0.0023769	0.0025788	0	0.0016071	0	0.0018986	0	0.0009044	0.0016071
K	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0006953	0.0003663	0.0009794	0.0009794	0.0014728	0.0016747	0.0009044	0.0006953	0.0009044	0.0009794	0.0009044	0	0.0006953
L	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0028246	0.0024958	0.0031085	0.0031085	0.0035867	0.0038034	0.001218	0.0028246	0.001218	0.0031085	0.001218	0.0021296	0.0028246
M	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0
N	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0

Table A3-4. Experimental data of Comparation network with Capital English letters, H to N vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
O	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0	0.001301	0.0003289	0.0006131	0.001301	0.0003289	0.0014879	0.0003289	0.0003289	0.0012856	0.0003663	0.0024958	0.0003289
P	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0006131	0.0006879	0.0002916	0	0.0006879	0.0002916	0.0008674	0.0002916	0.0002916	0.0018986	0.0009794	0.0031085	0.0002916
Q	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0006131	0.0006879	0.0002916	0	0.0006879	0.0002916	0.0008674	0.0002916	0.0002916	0.0018986	0.0009794	0.0031085	0.0002916
R	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0010991	0.0002094	0.0007776	0.0004860	0.0002094	0.0007776	0.0003889	0.0007776	0.0007776	0.0023769	0.0014728	0.0035867	0.0007776
S	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.001301	0	0.0009795	0.0006879	0	0.0009795	0.0001795	0.0009795	0.0009795	0.0025788	0.0016747	0.0038034	0.0009795
T	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0012856	0.0025788	0.0016071	0.0018986	0.0025788	0.0016071	0.0027656	0.0016071	0.0016071	0	0.0009044	0.001218	0.0016071
U	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0

Table A3-5. Experimental data of Comparation network with Capital English letters, O to U vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
O	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0003289	0	0.0006131	0.0006131	0.0010991	0.001301	0.0012856	0.0003289	0.0012856	0.0006131	0.0012856	0.0003663	0.0003289
P	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0002916	0.0006131	0	0	0.0004860	0.0006879	0.0018986	0.0002916	0.0018986	0	0.0018986	0.0009794	0.0002916
Q	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0002916	0.0006131	0	0	0.0004860	0.0006879	0.0018986	0.0002916	0.0018986	0	0.0018986	0.0009794	0.0002916
R	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0007776	0.0010991	0.0004860	0.0004860	0	0.0002094	0.0023769	0.0007776	0.0023769	0.0004860	0.0023769	0.0014728	0.0007776
S	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0009795	0.001301	0.0006879	0.0006879	0.0002094	0	0.0025788	0.0009795	0.0025788	0.0006879	0.0025788	0.0016747	0.0009795
T	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0016071	0.0012856	0.0018986	0.0018986	0.0023769	0.0025788	0	0.0016071	0	0.0018986	0	0.0009044	0.0016071
U	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0

Table A3-6. Experimental data of Comparation network with Capital English letters, O to U vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
V	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0012856	0.0025788	0.0016071	0.0018986	0.0025788	0.0016071	0.0027656	0.0016071	0.0016071	0	0.0009044	0.001218	0.0016071
W	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0006131	0.0006879	0.0002916	0	0.0006879	0.0002916	0.0008674	0.0002916	0.0002916	0.0018986	0.0009794	0.0031085	0.0002916
X	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0012856	0.0025788	0.0016071	0.0018986	0.0025788	0.0016071	0.0027656	0.0016071	0.0016071	0	0.0009044	0.001218	0.0016071
Y	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003663	0.0016747	0.0006953	0.0009794	0.0016747	0.0006953	0.0018616	0.0006953	0.0006953	0.0009044	0	0.0021296	0.0006953
Z	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5350	0.5348	0.5349	0.5349	0.5348	0.5349	0.5348	0.5349	0.5349	0.5351	0.5350	0.5353	0.5349
	Miss.	0.0003289	0.0009795	0	0.0002916	0.0009795	0	0.001159	0	0	0.0016071	0.0006953	0.0028246	0

Table A3-7. Experimental data of Comparation network with Capital English letters, V to Z vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (10x10)		Input-2 patterns (10x10)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
V	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0016071	0.0012856	0.0018986	0.0018986	0.0023769	0.0025788	0	0.0016071	0	0.0018986	0	0.0009044	0.0016071
W	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0002916	0.0006131	0	0	0.0004860	0.0006879	0.0018986	0.0002916	0.0018986	0	0.0018986	0.0009794	0.0002916
X	M (x5)	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351	0.5351
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0016071	0.0012856	0.0018986	0.0018986	0.0023769	0.0025788	0	0.0016071	0	0.0018986	0	0.0009044	0.0016071
Y	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0.0006953	0.0003663	0.0009794	0.0009794	0.0014728	0.0016747	0.0009044	0.0006953	0.0009044	0.0009794	0.0009044	0	0.0006953
Z	M (x5)	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349
	M (x6)	0.5349	0.5350	0.5349	0.5349	0.5348	0.5348	0.5351	0.5349	0.5351	0.5349	0.5351	0.5350	0.5349
	Miss.	0	0.0003289	0.0002916	0.0002916	0.0007776	0.0009795	0.0016071	0	0.0016071	0.0002916	0.0016071	0.0006953	0

Table A3-8. Experimental data of Comparation network with Capital English letters, V to Z vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 3000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Comparand-1 Patterns (10x10)		Comparand-2 Patterns (10x10)				
		G	B, E, S	R	D, P, Q, W	C, F, H, I, M, N, U, Z
G	α	0	0.0093 (1) ⟹ 0.0037	0.0170 (2) ⟹ 0.0055	0.0318 (4) ⟹ 0.0073	0.0387 (5) ⟹ 0.0085
	⍺	-	-	-	-	-
B, E, S	α	0.0093 (1) ⟹ 0.0037	0	0.0078 (1) ⟹ 0.0031	0.0227 (3) ⟹ 0.0057	0.0296 (4) ⟹ 0.0068
	⍺	-	-	-	-	-
R	α	0.0170 (2) ⟹ 0.0055	0.0078 (1) ⟹ 0.0031	0	0.0151 (2) ⟹ 0.0048	0.0220 (3) ⟹ 0.0055
	⍺	-	-	-	-	-
D, P, Q, W	α	0.0318 (4) ⟹ 0.0073	0.0227 (3) ⟹ 0.0057	0.0151 (2) ⟹ 0.0048	0	0.0071 (1) ⟹ 0.0028
	⍺	-	-	-	-	-
C, F, H, I, M, N, U, Z	α	0.0387 (5) ⟹ 0.0085	0.0296 (4) ⟹ 0.0068	0.0220 (3) ⟹ 0.0055	0.0071 (1) ⟹ 0.0028	0
	⍺	-	-	-	-	-
A, O	α	0.0439 (6) ⟹ 0.0088	0.0348 (5) ⟹ 0.0077	0.0273 (4) ⟹ 0.0063	0.0124 (2) ⟹ 0.0040	0.0054 (1) ⟹ 0.0021
	⍺	-	-	-	-	-
K, Y	α	0.0475 (7) ⟹ 0.0095	0.0385 (6) ⟹ 0.0077	0.0310 (5) ⟹ 0.0068	0.0161 (3) ⟹ 0.0040	0.0091 (2) ⟹ 0.0029
	⍺	-	-	-	-	-
J, T, V, X	α	0.0511 (9) ⟹ 0.0102	0.0422 (8) ⟹ 0.0084	0.0347 (7) ⟹ 0.0069	0.0199 (5) ⟹ 0.0044	0.0129 (4) ⟹ 0.0030
	⍺	-	-	-	-	-
L	α	0.0450 (11) ⟹ 0.0090	0.0360 (10) ⟹ 0.0072	0.0285 (9) ⟹ 0.0057	0.0136 (7) ⟹ 0.0027	0.0066 (6) ⟹ 0.0013
	⍺	-	-	-	-	-

Table A4-1. Demonstration (Part-1) of the diff-pc metric for the case of comparing patterns from 26 Capital English letters of retinal map size, 10x10. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. Thus (px) → ppx. The ppx values are: (1) → 0.4, (2) → 0.32, (3) → 0.25, (4) → 0.23, (5) → 0.22, (6 to 10) → 0.8, (11 to 20) → 0.8•2 = 1.6, (21 to 30) → 0.8•3 = 2.4, (31 to 40) → 0.8•4 = 3.2, (41 to 50) → 0.8•5 = 4 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A3-1 to A3-8.

Comparand-1 Patterns (10x10)		Comparand-2 Patterns (10x10) A, O	K, Y	J, T, V, X	L
G	α	0.0439 (6) ⟹ 0.0088	0.0475 (7) ⟹ 0.0095	0.0511 (9) ⟹ 0.0102	0.0450 (11) ⟹ 0.0090
	⍺	-	-	-	-
B, E, S	α	0.0348 (5) ⟹ 0.0077	0.0385 (6) ⟹ 0.0077	0.0422 (8) ⟹ 0.0084	0.0360 (10) ⟹ 0.0072
	⍺	-	-	-	-
R	α	0.0273 (4) ⟹ 0.0063	0.0310 (5) ⟹ 0.0068	0.0347 (7) ⟹ 0.0069	0.0285 (9) ⟹ 0.0057
	⍺	-	-	-	-
D, P, Q, W	α	0.0124 (2) ⟹ 0.0040	0.0161 (3) ⟹ 0.0040	0.0199 (5) ⟹ 0.0044	0.0136 (7) ⟹ 0.0027
	⍺	-	-	-	-
C, F, H, I, M, N, U, Z	α	0.0054 (1) ⟹ 0.0021	0.0091 (2) ⟹ 0.0029	0.0129 (4) ⟹ 0.0030	0.0066 (6) ⟹ 0.0013
	⍺	-	-	-	-
A, O	α	0	0.0038 (1) ⟹ 0.0015	0.0076 (3) ⟹ 0.0019	0.0012 (5) ⟹ 0.0003
	⍺	-	-	-	-
K, Y	α	0.0038 (1) ⟹ 0.0015	0	0.0039 (2) ⟹ 0.0012	0.0025 (4) ⟹ 0.0006
	⍺	-	-	-	-
J, T, V, X	α	0.0076 (3) ⟹ 0.0019	0.0039 (2) ⟹ 0.0012	0	0.0064 (2) ⟹ 0.0021
	⍺	-	-	-	-
L	α	0.0012 (5) ⟹ 0.0003	0.0025 (4) ⟹ 0.0006	0.0064 (2) ⟹ 0.0021	0
	⍺	-	-	-	-

Table A4-2. Demonstration (Part-2) of the diff-pc metric for the case of comparing patterns from 26 Capital English letters of retinal map size, 10x10. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. Thus (px) → ppx. The ppx values are: (1) → 0.4, (2) → 0.32, (3) → 0.25, (4) → 0.23, (5) → 0.22, (6 to 10) → 0.8, (11 to 20) → 0.8•2 = 1.6, (21 to 30) → 0.8•3 = 2.4, (31 to 40) → 0.8•4 = 3.2, (41 to 50) → 0.8•5 = 4 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A3-1 to A3-8.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
A	M (x5)	0.5345	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	$1.11\cdot10^{-4}$	$3.925\cdot10^{-5}$	$1.147\cdot10^{-4}$	0.5349
	M (x6)	0.5345	0	$2.85\cdot10^{-5}$	0	0	$2.65\cdot10^{-5}$	0	$2.575\cdot10^{-5}$	$2.775\cdot10^{-5}$	0.5353	0.5350	0.5357	$2.6\cdot10^{-5}$
	Miss.	0	4	3.9998	4	4	3.9998	4	3.9998	3.9998	3.9992	3.9997	3.9991	3.9998
B	M (x5)	0	0.0026	0	$7.5\cdot10^{-6}$	0.0026	0	0.0028	0	0	0	0	0	0
	M (x6)	0.5349	0.0026	0.5349	0.5348	0.0026	0.5349	0.0013	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	0	4	3.9999	0	4	2.0565	4	4	4	4	4	4
C	M (x5)	$2.85\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.4\cdot10^{-5}$	$5.325\cdot10^{-5}$	$5.95\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$6\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0
D	M (x5)	0	0.5348	$6\cdot10^{-6}$	0.5345	0.5348	$5.75\cdot10^{-6}$	0.5348	$5\cdot10^{-6}$	$5\cdot10^{-6}$	0	0	0	$5\cdot10^{-6}$
	M (x6)	0.5349	$7.75\cdot10^{-6}$	0.5349	0.5345	$7.5\cdot10^{-6}$	0.5349	$3\cdot10^{-6}$	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	3.9999	4	0	3.9999	4	4	4	4	4	4	4	4
E	M (x5)	0	0.0026	0	$8\cdot10^{-6}$	0.0026	0	0.0028	0	0	0	0	0	0
	M (x6)	0.5349	0.0026	0.5349	0.5348	0.0026	0.5349	0.0013	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	0	4	3.9999	0	4	2.0434	4	4	4	4	4	4
F	M (x5)	$2.625\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.4\cdot10^{-5}$	$5.45\cdot10^{-5}$	$5.95\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$6\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0
G	M (x5)	0	0.0013	0	$3\cdot10^{-6}$	0.0013	0	0.5345	0	0	0	0	0	0
	M (x6)	0.5349	0.0028	0.5349	0.5348	0.0028	0.5349	0.5345	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	2.0595	4	4	2.06	4	0	4	4	4	4	4	4

Table A5-1. Experimental data of Comparation network with 2x resolution Capital English letters, A to G vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	M (x5)	0.5349	0.5345	0.5349	0.5349	0.5349	0.5349	$1.142\cdot10^{-4}$	0.5349	$1.127\cdot10^{-4}$	0.5349	$1.145\cdot10^{-4}$	$3.55\cdot10^{-5}$	0.5349
	M (x6)	$2.6\cdot10^{-5}$	0.5345	0	$2.5\cdot10^{-7}$	0	0	0.5353	$2.525\cdot10^{-5}$	0.5353	0	0.5353	0.5350	$2.65\cdot10^{-5}$
	Miss.	3.9998	0	4	4	4	4	3.9991	3.9998	3.9992	4	3.9991	3.9997	3.9998
B	M (x5)	0	0	$8\cdot10^{-6}$	$7\cdot10^{-6}$	0.0024	0.5345	0	0	0	$6.25\cdot10^{-6}$	0	0	0
	M (x6)	0.5349	0.5349	0.5348	0.5348	0.0054	0.5345	0.5353	0.5349	0.5353	0.5348	0.5353	0.5350	0.5349
	Miss.	4	4	3.9999	3.9999	2.2101	0	4	4	4	4	4	4	4
C	M (x5)	0.5345	$2.675\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.375\cdot10^{-5}$	0.5345	$6.375\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.05\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$6\cdot10^{-6}$	$5\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.5353	0.5345	0.5353	$5.25\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0
D	M (x5)	$6\cdot10^{-6}$	0	0.5345	0.5345	0.5348	0.5348	0	$6\cdot10^{-6}$	0	0.5345	0	0	$5.75\cdot10^{-6}$
	M (x6)	0.5349	0.5349	0.5345	0.5345	$2.7\cdot10^{-5}$	$8\cdot10^{-6}$	0.5353	0.5349	0.5353	0.5345	0.5353	0.5350	0.5349
	Miss.	4	4	0	0	3.9998	3.9999	4	4	4	0	4	4	4
E	M (x5)	0	0	$7.25\cdot10^{-6}$	$8\cdot10^{-6}$	0.0024	0.0026	0	0	0	$8\cdot10^{-6}$	0	0	0
	M (x6)	0.5349	0.5349	0.5348	0.5348	0.0054	0.0026	0.5353	0.5349	0.5353	0.5348	0.5353	0.5350	0.5349
	Miss.	4	4	3.9999	3.9999	2.2075	0	4	4	4	3.9999	4	4	4
F	M (x5)	0.5345	$2.575\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$3.55\cdot10^{-4}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.275\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$5\cdot10^{-6}$	$6\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.4391	0.5345	0.5353	$6\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9968	0	3.9995	4	3.9995	3.9996	0
G	M (x5)	0	0	$3\cdot10^{-6}$	$3\cdot10^{-6}$	0.0013	0.0013	0	0	0	$3\cdot10^{-6}$	0	0	0
	M (x6)	0.5349	0.5349	0.5348	0.5348	0.0057	0.0028	0.5353	0.5349	0.5353	0.5348	0.5353	0.5350	0.5349
	Miss.	4	4	4	4	3.1255	2.06	4	4	4	4	4	4	4

Table A5-2. Experimental data of Comparation network with 2x resolution Capital English letters, A to G vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
H	M (x5)	$2.6\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.4\cdot10^{-5}$	$5.225\cdot10^{-5}$	$5.9\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$6\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0
I	M (x5)	$2.65\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.35\cdot10^{-5}$	$5.27\cdot10^{-5}$	$5.9\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$5\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0
J	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	$3.675\cdot10^{-4}$	0.5353
	M (x6)	$1.14\cdot10^{-4}$	0	$6.4\cdot10^{-5}$	0	0	$6.4\cdot10^{-5}$	0	$6.35\cdot10^{-5}$	$6.4\cdot10^{-5}$	0.5346	$1.315\cdot10^{-4}$	0.5357	$6.4\cdot10^{-5}$
	Miss.	3.9991	4	3.9995	4	4	3.9995	4	3.9995	3.9995	0	3.999	3.9973	3.9995
K	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	$1.32\cdot10^{-4}$	0.5345	$1.8\cdot10^{-4}$	0.5350
	M (x6)	$3.85\cdot10^{-5}$	0	$5.2\cdot10^{-5}$	0	0	$5.2\cdot10^{-5}$	0	$5.275\cdot10^{-5}$	$5.325\cdot10^{-5}$	0.5353	0.5345	0.5357	$5.175\cdot10^{-5}$
	Miss.	3.9997	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.999	0	3.9987	3.9996
L	M (x5)	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5346	0.5357
	M (x6)	$1.14\cdot10^{-4}$	0	$5.925\cdot10^{-5}$	0	0	$5.925\cdot10^{-5}$	0	$5.95\cdot10^{-5}$	$5.95\cdot10^{-5}$	$3.825\cdot10^{-4}$	$1.79\cdot10^{-4}$	0.5346	$6\cdot10^{-5}$
	Miss.	3.9991	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9971	3.9987	0	3.9996
M	M (x5)	$2.725\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.4\cdot10^{-5}$	$5.45\cdot10^{-5}$	$6\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$5\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0
N	M (x5)	$2.675\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.4\cdot10^{-5}$	$5.25\cdot10^{-5}$	$6.025\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$5.25\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0

Table A5-3. Experimental data of Comparation network with 2x resolution Capital English letters, H to N vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
H	M (x5)	0.5345	$2.55\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.4\cdot10^{-5}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.225\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$6\cdot10^{-6}$	$5\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.5353	0.5345	0.5353	$5.25\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0
I	M (x5)	0.5345	$2.7\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.35\cdot10^{-5}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.325\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$5.25\cdot10^{-6}$	$5\cdot10^{-6}$	$7.5\cdot10^{-7}$	0	0.5353	0.5345	0.5353	$5\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0
J	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	0.5346	0.5353	0.5346	0.5353	0.5353
	M (x6)	$6.4\cdot10^{-5}$	$1.13\cdot10^{-4}$	0	0	0	0	0.5346	$6.4\cdot10^{-5}$	0.5346	0	0.5346	$1.325\cdot10^{-4}$	$6.4\cdot10^{-5}$
	Miss.	3.9995	3.9992	4	4	4	4	0	3.9995	0	4	0	3.999	3.9995
K	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	$1.27\cdot10^{-4}$	0.5350	$1.27\cdot10^{-4}$	0.5350	$1.297\cdot10^{-4}$	0.5345	0.5350
	M (x6)	$5.35\cdot10^{-5}$	$3.5\cdot10^{-5}$	0	0	0	0	0.5353	$5.425\cdot10^{-5}$	0.5353	0	0.5353	0.5345	$5.4\cdot10^{-5}$
	Miss.	3.9996	3.9997	4	4	4	4	3.9991	3.9996	3.9991	4	3.999	0	3.9996
L	M (x5)	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357	0.5357
	M (x6)	$5.925\cdot10^{-5}$	$1.147\cdot10^{-4}$	0	0	0	0	$3.82\cdot10^{-4}$	$5.925\cdot10^{-5}$	$3.862\cdot10^{-4}$	0	$3.8\cdot10^{-4}$	$1.787\cdot10^{-4}$	$6.025\cdot10^{-5}$
	Miss.	3.9996	3.9991	4	4	4	4	3.9971	3.9996	3.9971	4	3.9972	3.9987	3.9996
M	M (x5)	0.5345	$2.775\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.4\cdot10^{-5}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.4\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$5\cdot10^{-6}$	$6\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.5353	0.5345	0.5353	$5\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0
N	M (x5)	0.5345	$2.675\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.4\cdot10^{-5}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.325\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$5\cdot10^{-6}$	$6\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.5353	0.5345	0.5353	$5\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0

Table A5-4. Experimental data of Comparation network with 2x resolution Capital English letters, H to N vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
O	M (x5)	0.5345	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	$1.137\cdot10^{-4}$	$3.525\cdot10^{-5}$	$1.142\cdot10^{-4}$	0.5349
	M (x6)	0.5345	0	$2.775\cdot10^{-5}$	0	0	$2.625\cdot10^{-5}$	0	$2.65\cdot10^{-5}$	$2.8\cdot10^{-5}$	0.5353	0.5350	0.5357	$2.675\cdot10^{-5}$
	Miss.	0	4	3.9998	4	4	3.9998	4	3.9998	3.9998	3.9991	3.9997	3.9991	3.9998
P	M (x5)	0	0.5348	$5.75\cdot10^{-6}$	0.5345	0.5348	$5\cdot10^{-6}$	0.5348	$5.75\cdot10^{-6}$	$5.75\cdot10^{-6}$	0	0	0	$5.75\cdot10^{-6}$
	M (x6)	0.5349	$7\cdot10^{-6}$	0.5349	0.5345	$8\cdot10^{-6}$	0.5349	$3\cdot10^{-6}$	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	3.9999	4	0	3.9999	4	4	4	4	4	4	4	4
Q	M (x5)	0	0.5348	$5\cdot10^{-6}$	0.5345	0.5348	$5.25\cdot10^{-6}$	0.5348	$6\cdot10^{-6}$	$5.5\cdot10^{-6}$	0	0	0	$5\cdot10^{-6}$
	M (x6)	0.5349	$7\cdot10^{-6}$	0.5349	0.5345	$8\cdot10^{-6}$	0.5349	$3\cdot10^{-6}$	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	3.9999	4	0	3.9999	4	4	4	4	4	4	4	4
R	M (x5)	0	0.0054	$1\cdot10^{-6}$	$2.5\cdot10^{-5}$	0.0054	$1\cdot10^{-6}$	0.0057	$1\cdot10^{-6}$	$1\cdot10^{-6}$	0	0	0	$1\cdot10^{-6}$
	M (x6)	0.5349	0.0024	0.5349	0.5348	0.0024	0.5349	0.0013	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	2.2115	4	3.9998	2.2099	4	3.1243	4	4	4	4	4	4
S	M (x5)	0	0.0026	0	$7.75\cdot10^{-6}$	0.0026	0	0.0027	0	0	0	0	0	0
	M (x6)	0.5349	0.0026	0.5349	0.5348	0.0026	0.5349	0.0013	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	0	4	3.9999	0	4	2.0585	4	4	4	4	4	4
T	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	$3.932\cdot10^{-4}$	0.5353
	M (x6)	$1.127\cdot10^{-4}$	0	$6.4\cdot10^{-5}$	0	0	$6.4\cdot10^{-5}$	0	$6.35\cdot10^{-5}$	$6.375\cdot10^{-5}$	0.5346	$1.267\cdot10^{-4}$	0.5357	$6\cdot10^{-5}$
	Miss.	3.9992	4	3.9995	4	4	3.9995	4	3.9995	3.9995	0	3.9991	3.9971	3.9995
U	M (x5)	$2.5\cdot10^{-5}$	0.5349	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.4\cdot10^{-5}$	$5.375\cdot10^{-5}$	$5.975\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$5\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9996	0

Table A5-5. Experimental data of Comparation network with 2x resolution Capital English letters, O to U vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
O	M (x5)	0.5349	0.5345	0.5349	0.5349	0.5349	0.5349	$1.12\cdot10^{-4}$	0.5349	$1.147\cdot10^{-4}$	0.5349	$1.135\cdot10^{-4}$	$3.925\cdot10^{-5}$	0.5349
	M (x6)	$2.425\cdot10^{-5}$	0.5345	0	$5\cdot10^{-7}$	0	0	0.5353	$2.525\cdot10^{-5}$	0.5353	0	0.5353	0.5350	$2.7\cdot10^{-5}$
	Miss.	3.9998	0	4	4	4	4	3.9992	3.9998	3.9991	4	3.9992	3.9997	3.9998
P	M (x5)	$5.25\cdot10^{-6}$	$2.5\cdot10^{-7}$	0.5345	0.5345	0.5348	0.5348	0	$5\cdot10^{-6}$	0	0.5345	0	0	$5\cdot10^{-6}$
	M (x6)	0.5349	0.5349	0.5345	0.5345	$2.7\cdot10^{-5}$	$7\cdot10^{-6}$	0.5353	0.5349	0.5353	0.5345	0.5353	0.5350	0.5349
	Miss.	4	4	0	0	3.9998	3.9999	4	4	4	0	4	4	4
Q	M (x5)	$6\cdot10^{-6}$	0	0.5345	0.5345	0.5348	0.5348	0	$6\cdot10^{-6}$	0	0.5345	0	0	$5\cdot10^{-6}$
	M (x6)	0.5349	0.5349	0.5345	0.5345	$2.6\cdot10^{-5}$	$8\cdot10^{-6}$	0.5353	0.5349	0.5353	0.5345	0.5353	0.5350	0.5349
	Miss.	4	4	0	0	3.9998	3.9999	4	4	4	0	4	4	4
R	M (x5)	$1\cdot10^{-6}$	0	$2.7\cdot10^{-5}$	$2.6\cdot10^{-5}$	0.0050	0.0054	0	$1\cdot10^{-6}$	0	$2.7\cdot10^{-5}$	0	0	$1\cdot10^{-6}$
	M (x6)	0.5349	0.5349	0.5348	0.5348	0.0050	0.0024	0.5353	0.5349	0.5353	0.5348	0.5353	0.5350	0.5349
	Miss.	4	4	3.9998	3.9998	0	2.214	4	4	4	3.9998	4	4	4
S	M (x5)	0	0	$7.5\cdot10^{-6}$	$7.25\cdot10^{-6}$	0.0024	0.0026	0	0	0	$7\cdot10^{-6}$	0	0	0
	M (x6)	0.5349	0.5349	0.5348	0.5348	0.0054	0.0026	0.5353	0.5345	0.5353	0.5348	0.5353	0.5350	0.5349
	Miss.	4	4	3.9999	3.9999	2.211	0	4	4	4	3.9999	4	4	4
T	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	0.5346	0.5353	0.5346	0.5353	0.5353
	M (x6)	$6.4\cdot10^{-5}$	$1.13\cdot10^{-4}$	0	0	0	0	0.5346	$6.4\cdot10^{-5}$	0.5346	0	0.5346	$1.29\cdot10^{-4}$	$6.4\cdot10^{-5}$
	Miss.	3.9995	3.9992	4	4	4	4	0	3.9995	0	4	0	3.999	3.9995
U	M (x5)	0.5345	$2.775\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.4\cdot10^{-5}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.3\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$5\cdot10^{-6}$	$6\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.5353	0.5345	0.5353	$6\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0

Table A5-6. Experimental data of Comparation network with 2x resolution Capital English letters, O to U vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
V	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	$3.775\cdot10^{-4}$	0.5353
	M (x6)	$1.14\cdot10^{-4}$	0	$6.4\cdot10^{-5}$	0	0	$6.375\cdot10^{-5}$	0	$6.4\cdot10^{-5}$	$6.4\cdot10^{-5}$	0.5346	$1.335\cdot10^{-4}$	0.5357	$6.4\cdot10^{-5}$
	Miss.	3.9992	4	3.9995	4	4	3.9995	4	3.9995	3.9995	0	3.999	3.9972	3.9995
W	M (x5)	0	0.5348	$6\cdot10^{-6}$	0.5345	0.5348	$5\cdot10^{-6}$	0.5348	$5\cdot10^{-6}$	$6\cdot10^{-6}$	0	0	0	$5\cdot10^{-6}$
	M (x6)	0.5349	$8\cdot10^{-6}$	0.5349	0.5345	$7\cdot10^{-6}$	0.5349	$3\cdot10^{-6}$	0.5349	0.5349	0.5353	0.5350	0.5357	0.5349
	Miss.	4	3.9999	4	0	3.9999	4	4	4	4	4	4	4	4
X	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	$3.867\cdot10^{-4}$	0.5353
	M (x6)	$1.107\cdot10^{-4}$	0	$6.4\cdot10^{-5}$	0	0	$6.35\cdot10^{-5}$	0	$6.4\cdot10^{-5}$	$6.4\cdot10^{-5}$	0.5346	$1.262\cdot10^{-4}$	0.5357	$6.4\cdot10^{-5}$
	Miss.	3.9992	4	3.9995	4	4	3.9995	4	3.9995	3.9995	0	3.9991	3.9971	3.9995
Y	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	$1.292\cdot10^{-4}$	0.5345	$1.8\cdot10^{-4}$	0.5350
	M (x6)	$3.35\cdot10^{-5}$	0	$5.45\cdot10^{-5}$	0	0	$5.4\cdot10^{-5}$	0	$5.325\cdot10^{-5}$	$5.1\cdot10^{-5}$	0.5353	0.5345	0.5357	$5.25\cdot10^{-5}$
	Miss.	3.9997	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.999	0	3.9987	3.9996
Z	M (x5)	$2.675\cdot10^{-5}$	0.5345	0.5345	0.5349	0.5349	0.5345	0.5349	0.5345	0.5345	$6.375\cdot10^{-5}$	$5.3\cdot10^{-5}$	$6.05\cdot10^{-5}$	0.5345
	M (x6)	0.5349	0	0.5345	$5.25\cdot10^{-6}$	0	0.5345	0	0.5345	0.5345	0.5353	0.5350	0.5357	0.5345
	Miss.	3.9998	4	0	4	4	0	4	0	0	3.9995	3.9996	3.9995	0

Table A5-7. Experimental data of Comparation network with 2x resolution Capital English letters, V to Z vs. A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (2x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
V	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	0.5346	0.5353	0.5346	0.5353	0.5353
	M (x6)	$6.4\cdot10^{-5}$	$1.125\cdot10^{-4}$	0	0	0	0	0.5346	$6.4\cdot10^{-5}$	0.5346	0	0.5346	$1.335\cdot10^{-4}$	$6.4\cdot10^{-5}$
	Miss.	3.9995	3.9992	4	4	4	4	0	3.9995	0	4	0	3.999	3.9995
W	M (x5)	$6\cdot10^{-6}$	0	0.5345	0.5345	0.5348	0.5348	0	$6\cdot10^{-6}$	0	0.5345	0	0	$6\cdot10^{-6}$
	M (x6)	0.5349	0.5349	0.5345	0.5345	$2.5\cdot10^{-5}$	$8\cdot10^{-6}$	0.5353	0.5349	0.5353	0.5345	0.5353	0.5350	0.5349
	Miss.	4	4	0	0	3.9998	3.9999	4	4	4	0	4	4	4
X	M (x5)	0.5353	0.5353	0.5353	0.5353	0.5353	0.5353	0.5346	0.5353	0.5346	0.5353	0.5346	0.5353	0.5353
	M (x6)	$6.4\cdot10^{-5}$	$1.117\cdot10^{-4}$	0	0	0	0	0.5346	$6.4\cdot10^{-5}$	0.5346	0	0.5346	$1.277\cdot10^{-4}$	$6.4\cdot10^{-5}$
	Miss.	3.9995	3.9992	4	4	4	4	0	3.9995	0	4	0	3.999	3.9995
Y	M (x5)	0.5350	0.5350	0.5350	0.5350	0.5350	0.5350	$1.327\cdot10^{-4}$	0.5350	$1.32\cdot10^{-4}$	0.5350	$1.325\cdot10^{-4}$	0.5345	0.5350
	M (x6)	$5.1\cdot10^{-5}$	$3.825\cdot10^{-5}$	0	0	0	0	0.5353	$5.4\cdot10^{-5}$	0.5353	0	0.5353	0.5345	$5.275\cdot10^{-5}$
	Miss.	3.9996	3.9997	4	4	4	4	3.999	3.9996	3.999	4	3.999	0	3.9996
Z	M (x5)	0.5345	$2.6\cdot10^{-5}$	0.5349	0.5349	0.5349	0.5349	$6.375\cdot10^{-5}$	0.5345	$6.4\cdot10^{-5}$	0.5349	$6.4\cdot10^{-5}$	$5.15\cdot10^{-5}$	0.5345
	M (x6)	0.5345	0.5349	$5.5\cdot10^{-6}$	$5\cdot10^{-6}$	$1\cdot10^{-6}$	0	0.5353	0.5345	0.5353	$5\cdot10^{-6}$	0.5353	0.5350	0.5345
	Miss.	0	3.9998	4	4	4	4	3.9995	0	3.9995	4	3.9995	3.9996	0

Table A5-8. Experimental data of Comparation network with 2x resolution Capital English letters, V to Z vs. N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Comparand-1 Patterns (2x)		Comparand-2 Patterns (2x)				
		G	B, E, S	R	D, P, Q, W	C, F, H, I, M, N, U, Z
G	α	0	-	-	-	-
	⍺	-	0.1214 (4) ⟹ 0.1116	0.2165 (8) ⟹ 0.1732	0.3571 (16) ⟹ 0.2857	0.4066 (20) ⟹ 0.3253
B, E, S	α	-	0	-	-	-
	⍺	0.1214 (4) ⟹ 0.1116	-	0.1082 (4) ⟹ 0.0995	0.2683 (12) ⟹ 0.2147	0.3245 (16) ⟹ 0.2597
R	α	-	-	0	-	-
	⍺	0.2165 (8) ⟹ 0.1732	0.1082 (4) ⟹ 0.0995	-	0.1794 (8) ⟹ 0.1435	0.2426 (12) ⟹ 0.1941
D, P, Q, W	α	-	-	-	0	-
	⍺	0.3571 (16) ⟹ 0.2857	0.2683 (12) ⟹ 0.2147	0.1794 (8) ⟹ 0.1435	-	0.0769 (4) ⟹ 0.0707
C, F, H, I, M, N, U, Z	α	-	-	-	-	0
	⍺	0.4065 (20) ⟹ 0.3246	0.3245 (16) ⟹ 0.2597	0.2426 (12) ⟹ 0.1941	0.0769 (4) ⟹ 0.0707	-
A, O	α	-	-	-	-	-
	⍺	0.4532 (24) ⟹ 0.3626	0.3777 (20) ⟹ 0.3022	0.3021 (16) ⟹ 0.2417	0.1495 (8) ⟹ 0.1196	0.0786 (4) ⟹ 0.0723
K, Y	α	-	-	-	-	-
	⍺	0.4935 (28) ⟹ 0.3848	0.4235 (24) ⟹ 0.3388	0.3535 (20) ⟹ 0.2828	0.2121 (12) ⟹ 0.1697	0.1464 (8) ⟹ 0.1171
J, T, V, X	α	-	-	-	-	-
	⍺	0.5542 (36) ⟹ 0.4434	0.4926 (32) ⟹ 0.3942	0.4311 (28) ⟹ 0.3449	0.3066 (20) ⟹ 0.2453	0.2488 (16) ⟹ 0.1991
L	α	-	-	-	-	-
	⍺	0.6004 (44) ⟹ 0.4804	0.5452 (40) ⟹ 0.4362	0.4900 (36) ⟹ 0.3920	0.3784 (28) ⟹ 0.3028	0.3266 (24) ⟹ 0.2614

Table A6-1. Demonstration (Part-1) of the diff-pc metric for the case of comparing patterns from 26 2x resolution Capital English letters of retinal map size, 10x10. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. But unlike the previous case (5x5) the pixels have increased 4x, thus (px) → 4•ppx. The ppx values are: (1) → 4•0.4 = 1.6, (2) → 4•0.32 = 1.6, (3) → 4•0.25 = 1, (4) → 4•0.23 = 0.92, (5) → 4•0.22 = 0.88, (6 to 10) → 4•0.8 = 3.2, (11 to 20) → 4•0.8•2 = 6.4 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A5-1 to A5-8.

Comparand-1 Patterns (2x)		Comparand-2 Patterns (2x) A, O	K, Y	J, T, V, X	L
G	α	-	-	-	-
	⍺	0.4532 (24) ⟹ 0.3626	0.4935 (28) ⟹ 0.3948	0.5542 (36) ⟹ 0.4434	0.6004 (44) ⟹ 0.4804
B, E, S	α	-	-	-	-
	⍺	0.3777 (20) ⟹ 0.3022	0.4235 (24) ⟹ 0.3388	0.4926 (32) ⟹ 0.3942	0.5452 (40) ⟹ 0.4362
R	α	-	-	-	-
	⍺	0.3021 (16) ⟹ 0.2417	0.3535 (20) ⟹ 0.2828	0.4311 (28) ⟹ 0.3449	0.4900 (36) ⟹ 0.3920
D, P, Q, W	α	-	-	-	-
	⍺	0.1495 (8) ⟹ 0.1196	0.2121 (12) ⟹ 0.1697	0.3066 (20) ⟹ 0.2453	0.3784 (28) ⟹ 0.3028
C, F, H, I, M, N, U, Z	α	-	-	-	-
	⍺	0.0786 (4) ⟹ 0.0723	0.1464 (8) ⟹ 0.1171	0.2488 (16) ⟹ 0.1991	0.3266 (24) ⟹ 0.2614
A, O	α	0	-	-	-
	⍺	-	0.0735 (4) ⟹ 0.0676	0.1847 (12) ⟹ 0.1478	0.2692 (20) ⟹ 0.2154
K, Y	α	-	0	-	-
	⍺	0.0735 (4) ⟹ 0.0676	-	0.1200 (8) ⟹ 0.0960	0.2111 (16) ⟹ 0.1689
J, T, V, X	α	-	-	0	-
	⍺	0.1847 (12) ⟹ 0.1478	0.1200 (8) ⟹ 0.0960	-	0.1035 (8) ⟹ 0.0828
L	α	-	-	-	0
	⍺	0.2692 (20) ⟹ 0.2154	0.2111 (16) ⟹ 0.1689	0.1035 (8) ⟹ 0.0828	-

Table A6-2. Demonstration (Part-2) of the diff-pc metric for the case of comparing patterns from 26 2x resolution Capital English letters of retinal map size, 10x10. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. But unlike the previous case (5x5) the pixels have increased 4x, thus (px) → 4•ppx. The ppx values are: (1) → 4•0.4 = 1.6, (2) → 4•0.32 = 1.6, (3) → 4•0.25 = 1, (4) → 4•0.23 = 0.92, (5) → 4•0.22 = 0.88, (6 to 10) → 4•0.8 = 3.2, (11 to 20) → 4•0.8•2 = 6.4 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A5-1 to A5-8.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
A	M (x5)	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5374	0.5375
	M (x6)	$9.95\cdot10^{-5}$	0	$5.05\cdot10^{-5}$	0	0	$5.075\cdot10^{-5}$	0	$5.15\cdot10^{-5}$	$5.025\cdot10^{-5}$	$4.722\cdot10^{-4}$	$1.642\cdot10^{-4}$	0.0018	$5.15\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9868	3.9996
B	M (x5)	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5366	0.5367
	M (x6)	$1.067\cdot10^{-4}$	0	$5.275\cdot10^{-5}$	0	0	$5.275\cdot10^{-5}$	0	$5.25\cdot10^{-5}$	$5.45\cdot10^{-5}$	$4.845\cdot10^{-4}$	$1.68\cdot10^{-4}$	0.0018	$5.375\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9987	3.9867	3.9996
C	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.055\cdot10^{-4}$	0	$5.3\cdot10^{-5}$	0	0	$5.175\cdot10^{-5}$	0	$5.075\cdot10^{-5}$	$5.25\cdot10^{-5}$	$4.75\cdot10^{-4}$	$1.652\cdot10^{-4}$	0.0018	$5.05\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996
D	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$1.045\cdot10^{-4}$	0	$5.15\cdot10^{-5}$	0	0	$5.2\cdot10^{-5}$	0	$5.3\cdot10^{-5}$	$5.4\cdot10^{-5}$	$4.765\cdot10^{-4}$	$1.677\cdot10^{-4}$	0.0018	$5.225\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996
E	M (x5)	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5366	0.5367
	M (x6)	$1.077\cdot10^{-4}$	0	$5.425\cdot10^{-5}$	0	0	$5.35\cdot10^{-5}$	0	$5.375\cdot10^{-5}$	$5.4\cdot10^{-5}$	$4.845\cdot10^{-4}$	$1.68\cdot10^{-4}$	0.0018	$5.275\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9987	3.9867	3.9996
F	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.032\cdot10^{-4}$	0	$5.275\cdot10^{-5}$	0	0	$5.1\cdot10^{-5}$	0	$5.05\cdot10^{-5}$	$5.05\cdot10^{-5}$	$4.772\cdot10^{-4}$	$1.68\cdot10^{-4}$	0.0018	$5.275\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9987	3.9867	3.9996
G	M (x5)	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5365	0.5366
	M (x6)	$1.057\cdot10^{-4}$	0	$5.4\cdot10^{-5}$	0	0	$5.3\cdot10^{-5}$	0	$5.425\cdot10^{-5}$	$5.5\cdot10^{-5}$	$4.86\cdot10^{-4}$	$1.687\cdot10^{-4}$	0.0018	$5.4\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9987	3.9867	3.9996

Table A7-1. Experimental data of Comparation network with 1x resolution A to G vs. 2x resolution A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	M (x5)	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375
	M (x6)	$5.2\cdot10^{-5}$	$1.032\cdot10^{-4}$	0	0	0	0	$4.72\cdot10^{-4}$	$5.175\cdot10^{-5}$	$4.71\cdot10^{-4}$	0	$4.75\cdot10^{-4}$	$1.612\cdot10^{-4}$	$5.15\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
B	M (x5)	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367
	M (x6)	$5.425\cdot10^{-5}$	$1.042\cdot10^{-4}$	0	0	0	0	$4.842\cdot10^{-4}$	$5.225\cdot10^{-5}$	$4.847\cdot10^{-4}$	0	$4.84\cdot10^{-4}$	$1.68\cdot10^{-4}$	$5.425\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9987	3.9996
C	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.225\cdot10^{-5}$	$1.012\cdot10^{-4}$	0	0	0	0	$4.755\cdot10^{-4}$	$5.175\cdot10^{-5}$	$4.76\cdot10^{-4}$	0	$4.752\cdot10^{-4}$	$1.625\cdot10^{-4}$	$5.05\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
D	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$5.15\cdot10^{-5}$	$1.04\cdot10^{-4}$	0	0	0	0	$4.767\cdot10^{-4}$	$5.125\cdot10^{-5}$	$4.752\cdot10^{-4}$	0	$4.78\cdot10^{-4}$	$1.637\cdot10^{-4}$	$5.25\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9965	4	3.9964	3.9988	3.9996
E	M (x5)	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367
	M (x6)	$5.375\cdot10^{-5}$	$1.032\cdot10^{-4}$	0	0	0	0	$4.842\cdot10^{-4}$	$5.425\cdot10^{-5}$	$4.845\cdot10^{-4}$	0	$4.842\cdot10^{-4}$	$1.71\cdot10^{-4}$	$5.25\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9987	3.9996
F	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.2\cdot10^{-5}$	$1.022\cdot10^{-4}$	0	0	0	0	$4.742\cdot10^{-4}$	$5\cdot10^{-5}$	$4.762\cdot10^{-4}$	0	$4.725\cdot10^{-4}$	$1.622\cdot10^{-4}$	$5.2\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
G	M (x5)	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366	0.5366
	M (x6)	$5.45\cdot10^{-5}$	$1.042\cdot10^{-4}$	0	0	0	0	$4.86\cdot10^{-4}$	$5.375\cdot10^{-5}$	$4.85\cdot10^{-4}$	0	$4.855\cdot10^{-4}$	$1.705\cdot10^{-4}$	$5.625\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9987	3.9996

Table A7-2. Experimental data of Comparation network with 1x resolution A to G vs. 2x resolution N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
H	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.015\cdot10^{-4}$	0	$5.15\cdot10^{-5}$	0	0	$5.075\cdot10^{-5}$	0	$5.1\cdot10^{-5}$	$5.1\cdot10^{-5}$	$4.73\cdot10^{-4}$	$1.672\cdot10^{-4}$	0.0018	$5.175\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996
I	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.02\cdot10^{-4}$	0	$5.075\cdot10^{-5}$	0	0	$5.1\cdot10^{-5}$	0	$5.075\cdot10^{-5}$	$5.175\cdot10^{-5}$	$4.762\cdot10^{-4}$	$1.647\cdot10^{-4}$	0.0018	$5.075\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996
J	M (x5)	0.5381	0.5382	0.5381	0.5382	0.5382	0.5381	0.5382	0.5381	0.5381	0.5381	0.5381	0.5381	0.5381
	M (x6)	$9.875\cdot10^{-5}$	0	$4.825\cdot10^{-5}$	0	0	$4.8\cdot10^{-5}$	0	$4.975\cdot10^{-5}$	$4.9\cdot10^{-5}$	$4.6\cdot10^{-4}$	$1.605\cdot10^{-4}$	0.0018	$4.875\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9966	3.9988	3.9869	3.9996
K	M (x5)	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5376	0.5377
	M (x6)	$1.015\cdot10^{-4}$	0	$5.075\cdot10^{-5}$	0	0	$5.05\cdot10^{-5}$	0	$5.05\cdot10^{-5}$	$5.05\cdot10^{-5}$	$4.665\cdot10^{-4}$	$1.605\cdot10^{-4}$	0.0018	$5.125\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9868	3.9996
L	M (x5)	0.5387	0.5387	0.5387	0.5387	0.5387	0.5387	0.5387	0.5387	0.5387	0.5386	0.5387	0.5386	0.5387
	M (x6)	$9.65\cdot10^{-5}$	0	$4.75\cdot10^{-5}$	0	0	$4.75\cdot10^{-5}$	0	$4.8\cdot10^{-5}$	$4.8\cdot10^{-5}$	$4.54\cdot10^{-4}$	$1.56\cdot10^{-4}$	0.0017	$4.85\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9966	3.9988	3.9871	3.9996
M	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.035\cdot10^{-4}$	0	$5.1\cdot10^{-5}$	0	0	$5.175\cdot10^{-5}$	0	$5.075\cdot10^{-5}$	$5.2\cdot10^{-5}$	$4.757\cdot10^{-4}$	$1.662\cdot10^{-4}$	0.0018	$5.075\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996
N	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.002\cdot10^{-4}$	0	$5.225\cdot10^{-5}$	0	0	$5.025\cdot10^{-5}$	0	$5.275\cdot10^{-5}$	$5.1\cdot10^{-5}$	$4.747\cdot10^{-4}$	$1.642\cdot10^{-4}$	0.0018	$5.4\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996

Table A7-3. Experimental data of Comparation network with 1x resolution H to N vs. 2x resolution A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
H	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.1\cdot10^{-5}$	$1.007\cdot10^{-4}$	0	0	0	0	$4.755\cdot10^{-4}$	$5.075\cdot10^{-5}$	$4.765\cdot10^{-4}$	0	$4.735\cdot10^{-4}$	$1.652\cdot10^{-4}$	$5.075\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
I	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.075\cdot10^{-5}$	$1.052\cdot10^{-4}$	0	0	0	0	$4.74\cdot10^{-4}$	$5.4\cdot10^{-5}$	$4.735\cdot10^{-4}$	0	$4.725\cdot10^{-4}$	$1.612\cdot10^{-4}$	$5.2\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
J	M (x5)	0.5381	0.5381	0.5382	0.5382	0.5382	0.5382	0.5381	0.5381	0.5381	0.5382	0.5381	0.5381	0.5381
	M (x6)	$4.95\cdot10^{-5}$	$1\cdot10^{-4}$	0	0	0	0	$4.592\cdot10^{-4}$	$4.875\cdot10^{-5}$	$4.612\cdot10^{-4}$	0	$4.642\cdot10^{-4}$	$1.602\cdot10^{-4}$	$4.9\cdot10^{-5}$
	Miss.	3.9996	3.9993	4	4	4	4	3.9966	3.9996	3.9966	4	3.9965	3.9988	3.9996
K	M (x5)	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377
	M (x6)	$4.975\cdot10^{-5}$	$1.027\cdot10^{-4}$	0	0	0	0	$4.7\cdot10^{-4}$	$4.975\cdot10^{-5}$	$4.692\cdot10^{-4}$	0	$4.68\cdot10^{-4}$	$1.605\cdot10^{-4}$	$4.925\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
L	M (x5)	0.5387	0.5387	0.5387	0.5387	0.5387	0.5387	0.5386	0.5387	0.5386	0.5387	0.5386	0.5387	0.5387
	M (x6)	$4.775\cdot10^{-5}$	$9.85\cdot10^{-5}$	0	0	0	0	$4.54\cdot10^{-4}$	$4.75\cdot10^{-5}$	$4.527\cdot10^{-4}$	0	$4.545\cdot10^{-4}$	$1.562\cdot10^{-4}$	$4.875\cdot10^{-5}$
	Miss.	3.9996	3.9993	4	4	4	4	3.9966	3.9996	3.9966	4	3.9966	3.9988	3.9996
M	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.125\cdot10^{-5}$	$1.022\cdot10^{-4}$	0	0	0	0	$4.722\cdot10^{-4}$	$5.35\cdot10^{-5}$	$4.735\cdot10^{-4}$	0	$4.735\cdot10^{-4}$	$1.642\cdot10^{-4}$	$5.15\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
N	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.275\cdot10^{-5}$	$1.007\cdot10^{-4}$	0	0	0	0	$4.737\cdot10^{-4}$	$5.35\cdot10^{-5}$	$4.73\cdot10^{-4}$	0	$4.737\cdot10^{-4}$	$1.642\cdot10^{-4}$	$5.15\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996

Table A7-4. Experimental data of Comparation network with 1x resolution H to N vs. 2x resolution N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x) A	B	C	D	E	F	G	H	I	J	K	L	M
O	M (x5)	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5374	0.5375
	M (x6)	$1\cdot10^{-4}$	0	$5.075\cdot10^{-5}$	0	0	$5.1\cdot10^{-5}$	0	$5.125\cdot10^{-5}$	$5\cdot10^{-5}$	$4.715\cdot10^{-4}$	$1.642\cdot10^{-4}$	0.0018	$5.05\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9868	3.9996
P	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$1.045\cdot10^{-4}$	0	$5.2\cdot10^{-5}$	0	0	$5.225\cdot10^{-5}$	0	$5.2\cdot10^{-5}$	$5.2\cdot10^{-5}$	$4.787\cdot10^{-4}$	$1.632\cdot10^{-4}$	0.0018	$5.225\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9988	3.9867	3.9996
Q	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$1.04\cdot10^{-4}$	0	$5.2\cdot10^{-5}$	0	0	$5.175\cdot10^{-5}$	0	$5.125\cdot10^{-5}$	$5.2\cdot10^{-5}$	$4.782\cdot10^{-4}$	$1.645\cdot10^{-4}$	0.0018	$5.25\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9988	3.9867	3.9996
R	M (x5)	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368
	M (x6)	$1.045\cdot10^{-4}$	0	$5.4\cdot10^{-5}$	0	0	$5.375\cdot10^{-5}$	0	$5.275\cdot10^{-5}$	$5.35\cdot10^{-5}$	$4.825\cdot10^{-4}$	$1.655\cdot10^{-4}$	0.0018	$5.3\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9988	3.9866	3.9996
S	M (x5)	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5366	0.5367
	M (x6)	$1.03\cdot10^{-4}$	0	$5.3\cdot10^{-5}$	0	0	$5.475\cdot10^{-5}$	0	$5.225\cdot10^{-5}$	$5.425\cdot10^{-5}$	$4.842\cdot10^{-4}$	$1.69\cdot10^{-4}$	0.0018	$5.375\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9964	3.9987	3.9867	3.9996
T	M (x5)	0.5381	0.5382	0.5381	0.5382	0.5382	0.5381	0.5382	0.5381	0.5381	0.5381	0.5381	0.5381	0.5381
	M (x6)	$1\cdot10^{-4}$	0	$4.9\cdot10^{-5}$	0	0	$4.95\cdot10^{-5}$	0	$4.975\cdot10^{-5}$	$5.025\cdot10^{-5}$	$4.637\cdot10^{-4}$	$1.615\cdot10^{-4}$	0.0018	$4.9\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9966	3.9988	3.9869	3.9996
U	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.012\cdot10^{-4}$	0	$5.275\cdot10^{-5}$	0	0	$5.125\cdot10^{-5}$	0	$5.225\cdot10^{-5}$	$5.025\cdot10^{-5}$	$4.722\cdot10^{-4}$	$1.652\cdot10^{-4}$	0.0018	$5.1\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996

Table A7-5. Experimental data of Comparation network with 1x resolution O to U vs. 2x resolution A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
O	M (x5)	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375	0.5375
	M (x6)	$5.3\cdot10^{-5}$	$1.037\cdot10^{-4}$	0	0	0	0	$4.707\cdot10^{-4}$	$5.3\cdot10^{-5}$	$4.712\cdot10^{-4}$	0	$4.71\cdot10^{-4}$	$1.652\cdot10^{-4}$	$5.05\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
P	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$5.175\cdot10^{-5}$	$1.015\cdot10^{-4}$	0	0	0	0	$4.785\cdot10^{-4}$	$5.25\cdot10^{-5}$	$4.785\cdot10^{-4}$	0	$4.792\cdot10^{-4}$	$1.672\cdot10^{-4}$	$5.225\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9988	3.9996
Q	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$5.175\cdot10^{-5}$	$1.035\cdot10^{-4}$	0	0	0	0	$4.765\cdot10^{-4}$	$5.15\cdot10^{-5}$	$4.78\cdot10^{-4}$	0	$4.787\cdot10^{-4}$	$1.657\cdot10^{-4}$	$5.25\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9964	4	3.9964	3.9988	3.9996
R	M (x5)	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368	0.5368
	M (x6)	$5.25\cdot10^{-5}$	$1.03\cdot10^{-4}$	0	0	0	0	$4.817\cdot10^{-4}$	$5.225\cdot10^{-5}$	$4.82\cdot10^{-4}$	0	$4.817\cdot10^{-4}$	$1.665\cdot10^{-4}$	$5.25\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9988	3.9996
S	M (x5)	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367	0.5367
	M (x6)	$5.225\cdot10^{-5}$	$1.045\cdot10^{-4}$	0	0	0	0	$4.842\cdot10^{-4}$	$5.3\cdot10^{-5}$	$4.84\cdot10^{-4}$	0	$4.84\cdot10^{-4}$	$1.692\cdot10^{-4}$	$5.225\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9987	3.9996
T	M (x5)	0.5381	0.5381	0.5382	0.5382	0.5382	0.5382	0.5381	0.5381	0.5381	0.5382	0.5381	0.5381	0.5381
	M (x6)	$4.95\cdot10^{-5}$	$9.975\cdot10^{-5}$	0	0	0	0	$4.615\cdot10^{-4}$	$4.875\cdot10^{-5}$	$4.632\cdot10^{-4}$	0	$4.59\cdot10^{-4}$	$1.607\cdot10^{-4}$	$4.85\cdot10^{-5}$
	Miss.	3.9996	3.9993	4	4	4	4	3.9966	3.9996	3.9966	4	3.9966	3.9988	3.9996
U	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.3\cdot10^{-5}$	$1.035\cdot10^{-4}$	0	0	0	0	$4.732\cdot10^{-4}$	$5.175\cdot10^{-5}$	$4.73\cdot10^{-4}$	0	$4.725\cdot10^{-4}$	$1.625\cdot10^{-4}$	$5.225\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996

Table A7-6. Experimental data of Comparation network with 1x resolution O to U vs. 2x resolution N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		A	B	C	D	E	F	G	H	I	J	K	L	M
V	M (x5)	0.5381	0.5382	0.5381	0.5382	0.5382	0.5381	0.5382	0.5381	0.5381	0.5381	0.5381	0.5381	0.5381
	M (x6)	$9.875\cdot10^{-5}$	0	$5.025\cdot10^{-5}$	0	0	$4.925\cdot10^{-5}$	0	$5\cdot10^{-5}$	$5\cdot10^{-5}$	$4.657\cdot10^{-4}$	$1.587\cdot10^{-4}$	0.0018	$4.825\cdot10^{-5}$
	Miss.	3.9993	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9869	3.9996
W	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$1.035\cdot10^{-4}$	0	$5.15\cdot10^{-5}$	0	0	$5.3\cdot10^{-5}$	0	$5.25\cdot10^{-5}$	$5.175\cdot10^{-5}$	$4.767\cdot10^{-4}$	$1.657\cdot10^{-4}$	0.0018	$5.25\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996
X	M (x5)	0.5381	0.5382	0.5381	0.5382	0.5382	0.5381	0.5382	0.5381	0.5381	0.5381	0.5381	0.5381	0.5381
	M (x6)	$1.025\cdot10^{-4}$	0	$4.875\cdot10^{-5}$	0	0	$4.975\cdot10^{-5}$	0	$4.875\cdot10^{-5}$	$4.9\cdot10^{-5}$	$4.597\cdot10^{-4}$	$1.615\cdot10^{-4}$	0.0018	$4.95\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9966	3.9988	3.9869	3.9996
Y	M (x5)	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5376	0.5377
	M (x6)	$1.022\cdot10^{-4}$	0	$4.95\cdot10^{-5}$	0	0	$4.925\cdot10^{-5}$	0	$4.975\cdot10^{-5}$	$5.175\cdot10^{-5}$	$4.685\cdot10^{-4}$	$1.622\cdot10^{-4}$	0.0018	$5.075\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9868	3.9996
Z	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5372	0.5373
	M (x6)	$1.007\cdot10^{-4}$	0	$5.3\cdot10^{-5}$	0	0	$5.125\cdot10^{-5}$	0	$5.225\cdot10^{-5}$	$5.125\cdot10^{-5}$	$4.762\cdot10^{-4}$	$1.617\cdot10^{-4}$	0.0018	$5.075\cdot10^{-5}$
	Miss.	3.9992	4	3.9996	4	4	3.9996	4	3.9996	3.9996	3.9965	3.9988	3.9867	3.9996

Table A7-7. Experimental data of Comparation network with 1x resolution V to Z vs. 2x resolution A to M. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Input-1 patterns (1x)		Input-2 patterns (2x)												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
V	M (x5)	0.5381	0.5381	0.5382	0.5382	0.5382	0.5382	0.5381	0.5381	0.5381	0.5382	0.5381	0.5381	0.5381
	M (x6)	$4.95\cdot10^{-5}$	$1.002\cdot10^{-4}$	0	0	0	0	$4.64\cdot10^{-4}$	$4.85\cdot10^{-5}$	$4.597\cdot10^{-4}$	0	$4.637\cdot10^{-4}$	$1.582\cdot10^{-4}$	$4.85\cdot10^{-5}$
	Miss.	3.9996	3.9993	4	4	4	4	3.9966	3.9996	3.9966	4	3.9966	3.9988	3.9996
W	M (x5)	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371	0.5371
	M (x6)	$5.175\cdot10^{-5}$	$1.05\cdot10^{-4}$	0	0	0	0	$4.782\cdot10^{-4}$	$5.125\cdot10^{-5}$	$4.77\cdot10^{-4}$	0	$4.79\cdot10^{-4}$	$1.657\cdot10^{-4}$	$5.2\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9964	3.9996	3.9964	4	3.9964	3.9988	3.9996
X	M (x5)	0.5381	0.5381	0.5382	0.5382	0.5382	0.5382	0.5381	0.5381	0.5381	0.5382	0.5381	0.5381	0.5381
	M (x6)	$4.95\cdot10^{-5}$	$1.007\cdot10^{-4}$	0	0	0	0	$4.595\cdot10^{-4}$	$5.1\cdot10^{-5}$	$4.6\cdot10^{-4}$	0	$4.61\cdot10^{-4}$	$1.61\cdot10^{-4}$	$5\cdot10^{-5}$
	Miss.	3.9996	3.9993	4	4	4	4	3.9966	3.9996	3.9966	4	3.9966	3.9988	3.9996
Y	M (x5)	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377	0.5377
	M (x6)	$5.175\cdot10^{-5}$	$1.005\cdot10^{-4}$	0	0	0	0	$4.685\cdot10^{-4}$	$4.9\cdot10^{-5}$	$4.665\cdot10^{-4}$	0	$4.67\cdot10^{-4}$	$1.62\cdot10^{-4}$	$5.075\cdot10^{-5}$
	Miss.	3.9996	3.9993	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996
Z	M (x5)	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373	0.5373
	M (x6)	$5.275\cdot10^{-5}$	$1.02\cdot10^{-4}$	0	0	0	0	$4.75\cdot10^{-4}$	$5.05\cdot10^{-5}$	$4.742\cdot10^{-4}$	0	$4.74\cdot10^{-4}$	$1.665\cdot10^{-4}$	$5.175\cdot10^{-5}$
	Miss.	3.9996	3.9992	4	4	4	4	3.9965	3.9996	3.9965	4	3.9965	3.9988	3.9996

Table A7-8. Experimental data of Comparation network with 1x resolution V to Z vs. 2x resolution N to Z. Each box has three entries, such that two are steady state (final iteration of simulation, 6000) of the average (median) node of respective motor-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 10x10.

Comparand-1 Patterns (1x)		Comparand-2 Patterns (2x)				
		G	B, E, S	R	D, P, Q, W	C, F, H, I, M, N, U, Z
G	α	-	-	-	-	-
	⍺	0.6422 (54) ⟹ 0.5138	0.5928 (50) ⟹ 0.4742	0.5433 (46) ⟹ 0.4347	0.4434 (38) ⟹ 0.3547	0.3970 (34) ⟹ 0.3176
B, E, S	α	-	-	-	-	-
	⍺	0.6455 (55) ⟹ 0.5164	0.5966 (51) ⟹ 0.4773	0.5476 (47) ⟹ 0.4381	0.4486 (39) ⟹ 0.3589	0.4027 (35) ⟹ 0.3221
R	α	-	-	-	-	-
	⍺	0.6483 (56) ⟹ 0.5186	0.5997 (52) ⟹ 0.4798	0.5511 (48) ⟹ 0.4409	0.4529 (40) ⟹ 0.3623	0.4073 (36) ⟹ 0.3259
D, P, Q, W	α	-	-	-	-	-
	⍺	0.6536 (58) ⟹ 0.5229	0.6057 (54) ⟹ 0.4846	0.5579 (50) ⟹ 0.4463	0.4611 (42) ⟹ 0.3689	0.4162 (38) ⟹ 0.3330
C, F, H, I, M, N, U, Z	α	-	-	-	-	-
	⍺	0.6561 (59) ⟹ 0.5248	0.6085 (55) ⟹ 0.4868	0.5610 (51) ⟹ 0.4488	0.4650 (43) ⟹ 0.3720	0.4204 (39) ⟹ 0.3363
A, O	α	-	-	-	-	-
	⍺	0.6579 (60) ⟹ 0.5263	0.6106 (56) ⟹ 0.4885	0.5634 (52) ⟹ 0.4507	0.4678 (44) ⟹ 0.3743	0.4235 (40) ⟹ 0.3388
K, Y	α	-	-	-	-	-
	⍺	0.6592 (61) ⟹ 0.5273	0.6121 (57) ⟹ 0.4897	0.5650 (53) ⟹ 0.4520	0.4598 (45) ⟹ 0.3759	0.4257 (41) ⟹ 0.3405
J, T, V, X	α	-	-	-	-	-
	⍺	0.6605 (63) ⟹ 0.5284	0.6136 (59) ⟹ 0.4909	0.5667 (55) ⟹ 0.4533	0.4719 (47) ⟹ 0.3775	0.4279 (43) ⟹ 0.3423
L	α	-	-	-	-	-
	⍺	0.6583 (65) ⟹ 0.5266	0.6111 (61) ⟹ 0.4889	0.5639 (57) ⟹ 0.4511	0.4685 (49) ⟹ 0.3748	0.4242 (45) ⟹ 0.3394

Table A8-1. Demonstration (Part-1) of the diff-pc metric for the case of comparing patterns 1x resolution vs. 2x resolution Capital English letters of retinal map size, 10x10. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. But unlike the previous case (5x5) the pixels have increased 4x, thus (px) → 4•ppx. The ppx values are: (1) → 4•0.4 = 1.6, (2) → 4•0.32 = 1.6, (3) → 4•0.25 = 1, (4) → 4•0.23 = 0.92, (5) → 4•0.22 = 0.88, (6 to 10) → 4•0.8 = 3.2, (11 to 20) → 4•0.8•2 = 6.4 and … For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A7-1 to A7-8.

Comparand-1 Patterns (1x)		Comparand-2 Patterns (2x)			
		A, O	K, Y	J, T, V, X	L
G	α	-	-	-	-
	⍺	0.3456 (30) ⟹ 0.2765	0.2936 (26) ⟹ 0.2349	0.1972 (18) ⟹ 0.1578	0.1045 (10) ⟹ 0.0836
B, E, S	α	-	-	-	-
	⍺	0.3517 (31) ⟹ 0.2813	0.3002 (27) ⟹ 0.2401	0.2047 (19) ⟹ 0.1638	0.1129 (11) ⟹ 0.0903
R	α	-	-	-	-
	⍺	0.3567 (32) ⟹ 0.2854	0.3056 (28) ⟹ 0.2445	0.2109 (20) ⟹ 0.1687	0.1197 (12) ⟹ 0.0958
D, P, Q, W	α	-	-	-	-
	⍺	0.3664 (34) ⟹ 0.2931	0.3161 (30) ⟹ 0.2528	0.2228 (22) ⟹ 0.1782	0.1330 (14) ⟹ 0.1064
C, F, H, I, M, N, U, Z	α	-	-	-	-
	⍺	0.3709 (35) ⟹ 0.2967	0.3209 (31) ⟹ 0.2567	0.2283 (23) ⟹ 0.1827	0.1391 (15) ⟹ 0.1113
A, O	α	-	-	-	-
	⍺	0.3743 (36) ⟹ 0.2994	0.3246 (32) ⟹ 0.2596	0.2325 (24) ⟹ 0.1860	0.1438 (16) ⟹ 0.1150
K, Y	α	-	-	-	-
	⍺	0.3766 (37) ⟹ 0.3013	0.3271 (33) ⟹ 0.2617	0.2353 (25) ⟹ 0.1883	0.1470 (17) ⟹ 0.1176
J, T, V, X	α	-	-	-	-
	⍺	0.3790 (39) ⟹ 0.3032	0.3297 (35) ⟹ 0.2638	0.2383 (27) ⟹ 0.1906	0.1503 (19) ⟹ 0.1202
L	α	-	-	-	-
	⍺	0.3750 (41) ⟹ 0.3000	0.3254 (37) ⟹ 0.2603	0.2334 (29) ⟹ 0.1867	0.1448 (21) ⟹ 0.1158

Table A8-2. Demonstration (Part-2) of the diff-pc metric for the case of comparing patterns 1x resolution vs. 2x resolution Capital English letters of retinal map size, 10x10. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. But unlike the previous case (5x5) the pixels have increased 4x, thus (px) → 4•ppx. The ppx values are: (1) → 4•0.4 = 1.6, (2) → 4•0.32 = 1.6, (3) → 4•0.25 = 1, (4) → 4•0.23 = 0.92, (5) → 4•0.22 = 0.88, (6 to 10) → 4•0.8 = 3.2, (11 to 20) → 4•0.8•2 = 6.4 and … For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on tables A7-1 to A7-8.

Input-1 patterns (5x5)		Input-2 patterns (5x5)									
		0	1	2	3	4	5	6	7	8	9
0	M (x5)	0.5347	0.0059	0.5347	0.0063	0.0062	0.5347	0.5347	0.0057	0.5347	0.5347
	M (x6)	0.5347	0.5370	0.5348	0.5366	0.5366	0.5347	0.5347	0.5374	0.5346	0.5348
	Miss.	0	3.9562	0.0007554	3.9532	3.9537	0.0003441	0.0003441	3.9573	0.0002693	0.0007554
1	M (x5)	0.5370	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5349	0.5370	0.5349
	M (x6)	0.0059	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0029	0.5348
	Miss.	3.9561	0	0.0011216	0.0006131	0.0006131	0.0015404	0.0015404	0.0007476	3.9785	0.0011216
2	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5363	0.5348
	M (x6)	0.5347	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0030	0.5348
	Miss.	0.0007554	0.0011216	0	0.000501	0.000501	0.0004188	0.0004188	0.0018765	3.9779	0
3	M (x5)	0.5366	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5366	0.5348
	M (x6)	0.0063	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0029	0.5348
	Miss.	3.9528	0.0006131	0.000501	0	0	0.0009198	0.0009198	0.0013607	3.9781	0.000501
4	M (x5)	0.5366	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5366	0.5348
	M (x6)	0.0062	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0029	0.5348
	Miss.	3.9539	0.0006131	0.000501	0	0	0.0009198	0.0009198	0.0013607	3.9781	0.000501
5	M (x5)	0.5347	0.5347	0.5347	0.5347	0.5347	0.5347	0.5347	0.0211	0.5360	0.5347
	M (x6)	0.5347	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5373	0.0032	0.5348
	Miss.	0.0003441	0.0015404	0.0004188	0.0009198	0.0009198	0	0	3.8432	3.9758	0.0004188
6	M (x5)	0.5347	0.5347	0.5347	0.5347	0.5347	0.5347	0.5347	0.0214	0.5360	0.5347
	M (x6)	0.5347	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5373	0.0032	0.5348
	Miss.	0.0003441	0.0015404	0.0004188	0.0009198	0.0009198	0	0	3.8409	3.9759	0.0004188
7	M (x5)	0.5374	0.5350	0.5350	0.5350	0.5350	0.5373	0.5373	0.5350	0.5374	0.5350
	M (x6)	0.0057	0.5349	0.5348	0.5348	0.5348	0.0207	0.0207	0.5350	0.0028	0.5348
	Miss.	3.9573	0.0007476	0.0018765	0.0013607	0.0013607	3.8455	3.8462	0	3.9788	0.0018765
8	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0033	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9785	3.9779	3.9781	3.9781	3.9759	3.9753	3.9789	0	3.9779
9	M (x5)	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5363	0.5348
	M (x6)	0.5347	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0030	0.5348
	Miss.	0.0007554	0.0011216	0	0.000501	0.000501	0.0004188	0.0004188	0.0018765	3.9779	0

Table A9. Experimental data of Comparation network with Numerals, 0 to 9 vs. 0 to 9. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Comparand-1 Patterns (5x5)		Comparand-2 Patterns (5x5)						
		8	0	5, 6	2, 9	3, 4	1	7
8	α	0	0.0725 (1) ⟹ 0.0290	-	-	-	-	-
	⍺	-	-	0.1318 (2) ⟹ 0.0421	0.1829 (3) ⟹ 0.0457	0.2268 (4) ⟹ 0.0521	0.2628 (5) ⟹ 0.0578	0.2924 (6) ⟹ 0.0585
0	α	0.0725 (1) ⟹ 0.0290	0	0.0639 (1) ⟹ 0.0255	0.1190 (2) ⟹ 0.0380	-	-	-
	⍺	-	-	-	-	0.1664 (3) ⟹ 0.0416	0.2052 (4) ⟹ 0.0471	0.2370 (5) ⟹ 0.0521
5, 6	α	-	0.0639 (1) ⟹ 0.0255	0	0.0588 (1) ⟹ 0.0235	0.1094 (2) ⟹ 0.0350	0.1508 (3) ⟹ 0.0377	-
	⍺	0.1318 (2) ⟹ 0.0421	-	-	-	-	-	0.1849 (5) ⟹ 0.0425
2, 9	α	-	0.1190 (2) ⟹ 0.0380	0.0588 (1) ⟹ 0.0235	0	0.0538 (1) ⟹ 0.0215	0.0978 (2) ⟹ 0.0313	0.1340 (3) ⟹ 0.0335
	⍺	0.1829 (3) ⟹ 0.0457	-	-	-	-	-	-
3, 4	α	-	-	0.1094 (2) ⟹ 0.0350	0.0538 (1) ⟹ 0.0215	0	0.0465 (1) ⟹ 0.0186	0.0847 (2) ⟹ 0.0271
	⍺	0.2268 (4) ⟹ 0.0521	0.1664 (3) ⟹ 0.0416	-	-	-	-	-
1	α	-	-	0.1508 (3) ⟹ 0.0377	0.0978 (2) ⟹ 0.0313	0.0465 (1) ⟹ 0.0186	0	0.0400 (1) ⟹ 0.0160
	⍺	0.2628 (5) ⟹ 0.0578	0.2052 (4) ⟹ 0.0471	-	-	-	-	-
7	α	-	-	-	0.1340 (3) ⟹ 0.0335	0.0847 (2) ⟹ 0.0271	0.0400 (1) ⟹ 0.0160	0
	⍺	0.2924 (6) ⟹ 0.0584	0.2370 (5) ⟹ 0.0521	0.1849 (4) ⟹ 0.0425	-	-	-	-

Table A10. Demonstration of the diff-pc metric for the case of comparing patterns from Arabic Numerals, 0 to 9 of retinal map size, 5x5. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. Thus (px) → ppx. The ppx values are: (1) → 0.4, (2) → 0.32, (3) → 0.25, (4) → 0.23, (5) → 0.22, (6 to 10) → 0.8, (11 to 20) → 0.8•2 = 1.6, (21 to 30) → 0.8•3 = 2.4, (31 to 40) → 0.8•4 = 3.2, (41 to 50) → 0.8•5 = 4, (51 to 60) → 0.8•6 = 4.8 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome is based on table A9.

Input-1 patterns (5x5)		Input-2 patterns (5x5)									
		0	1	2	3	4	5	6	7	8	9
A	M (x5)	0.5347	0.0059	0.5347	0.0063	0.0062	0.5347	0.5347	0.0057	0.5347	0.5347
	M (x6)	0.5347	0.5370	0.5348	0.5366	0.5366	0.5347	0.5347	0.5374	0.5346	0.5348
	Miss.	0	3.956	0.0007554	3.9533	3.9539	0.0003441	0.0003441	3.9573	0.0002693	0.0007554
B	M (x5)	$3.94\cdot10^{-4}$	$3.45\cdot10^{-4}$	$3.59\cdot10^{-4}$	$3.537\cdot10^{-4}$	$3.555\cdot10^{-4}$	$3.735\cdot10^{-4}$	$3.7\cdot10^{-4}$	$3.4\cdot10^{-4}$	$4.092\cdot10^{-4}$	$3.607\cdot10^{-4}$
	M (x6)	0.5358	0.5371	0.5364	0.5367	0.5367	0.5361	0.5361	0.5375	0.5356	0.5364
	Miss.	3.9971	3.9974	3.9973	3.9974	3.9974	3.9972	3.9972	3.9975	3.9969	3.9973
C	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0032	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9785	3.9779	3.9782	3.9781	3.9759	3.9764	3.9789	0	3.9779
D	M (x5)	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015	0.5346	0.0016
	M (x6)	0.5358	0.5370	0.5363	0.5367	0.5367	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	3.9882	3.9883	3.9878	3.988	3.988	3.9878	3.9878	3.9886	0.0002244	3.9878
E	M (x5)	$3.89\cdot10^{-4}$	$3.495\cdot10^{-4}$	$3.645\cdot10^{-4}$	$3.57\cdot10^{-4}$	$3.562\cdot10^{-4}$	$3.747\cdot10^{-4}$	$3.845\cdot10^{-4}$	$3.557\cdot10^{-4}$	$4.092\cdot10^{-4}$	$3.715\cdot10^{-4}$
	M (x6)	0.5358	0.5371	0.5364	0.5367	0.5367	0.5361	0.5361	0.5375	0.5356	0.5364
	Miss.	3.9971	3.9974	3.9973	3.9973	3.9973	3.9972	3.9971	3.9974	3.9969	3.9972
F	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0032	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9785	3.9779	3.9781	3.9782	3.9764	3.9762	3.9789	0	3.9779
G	M (x5)	$2.46\cdot10^{-4}$	$2.315\cdot10^{-4}$	$2.35\cdot10^{-4}$	$2.232\cdot10^{-4}$	$2.272\cdot10^{-4}$	$2.355\cdot10^{-4}$	$2.482\cdot10^{-4}$	$2.205\cdot10^{-4}$	$2.57\cdot10^{-4}$	$2.295\cdot10^{-4}$
	M (x6)	0.5358	0.5371	0.5364	0.5367	0.5367	0.5361	0.5361	0.5375	0.5356	0.5364
	Miss.	3.9982	3.9983	3.9982	3.9983	3.9983	3.9982	3.9981	3.9984	3.9981	3.9983
H	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0032	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9785	3.9779	3.9781	3.9781	3.9763	3.9762	3.9789	0	3.9779
I	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0032	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9784	3.9779	3.9781	3.9781	3.9765	3.9763	3.9789	0	3.9779
J	M (x5)	0.5366	0.5348	0.5348	0.5348	0.5348	0.4406	0.5348	0.5348	0.5366	0.5348
	M (x6)	0.0063	0.5349	0.5348	0.5348	0.5348	0.4397	0.5347	0.5350	0.0029	0.5348
	Miss.	3.9529	0.0006131	0.000501	0	0	0.0079168	0.0009198	0.0013607	3.9781	0.000501

Table A11-1. Experimental data of Comparation network with Capital English letters, A to J vs. Numerals, 0 to 9. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)									
		0	1	2	3	4	5	6	7	8	9
K	M (x5)	0.5347	0.5347	0.5347	0.5347	0.5347	0.5347	0.5347	0.0197	0.5360	0.5347
	M (x6)	0.5347	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5373	0.0032	0.5348
	Miss.	0.0003441	0.0015404	0.0004188	0.0009198	0.0009198	0	0	3.8534	3.9761	0.0004188
L	M (x5)	0.5374	0.5350	0.5350	0.5350	0.5350	0.5373	0.5373	0.5350	0.5374	0.5350
	M (x6)	0.0057	0.5349	0.5348	0.5348	0.5348	0.0218	0.0214	0.5350	0.0028	0.5348
	Miss.	3.9574	0.0007476	0.0018765	0.0013607	0.0013607	3.8375	3.8408	0	3.9788	0.0018765
M	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0032	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9784	3.9779	3.9781	3.9781	3.9761	3.9762	3.9789	0	3.9779
N	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0033	0.0034	0.0261	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.4430	0.5346	0.5363
	Miss.	0.0002693	3.9784	3.9779	3.9781	3.9781	3.9756	3.9749	3.764	0	3.9779
O	M (x5)	0.5347	0.0059	0.5347	0.0063	0.0063	0.5347	0.5347	0.0057	0.5347	0.5347
	M (x6)	0.5347	0.5370	0.5348	0.5366	0.5366	0.5347	0.5347	0.5374	0.5346	0.5348
	Miss.	0	3.9561	0.0007554	3.953	3.9531	0.0003441	0.0003441	3.9573	0.0002693	0.0007554
P	M (x5)	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015	0.5346	0.0016
	M (x6)	0.5358	0.5370	0.5363	0.5367	0.5367	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	3.9882	3.9883	3.9878	3.988	3.988	3.9878	3.9878	3.9885	0.0002244	3.9878
Q	M (x5)	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015	0.5346	0.0016
	M (x6)	0.5358	0.5370	0.5363	0.5367	0.5367	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	3.9882	3.9883	3.9878	3.988	3.988	3.9879	3.9879	3.9885	0.0002244	3.9878
R	M (x5)	$6.267\cdot10^{-4}$	$5.537\cdot10^{-4}$	$5.887\cdot10^{-4}$	$5.625\cdot10^{-4}$	$5.62\cdot10^{-4}$	$6.042\cdot10^{-4}$	$6.032\cdot10^{-4}$	$5.422\cdot10^{-4}$	$6.397\cdot10^{-4}$	$5.787\cdot10^{-4}$
	M (x6)	0.5358	0.5371	0.5364	0.5367	0.5367	0.5361	0.5361	0.5375	0.5356	0.5364
	Miss.	3.9953	3.9959	3.9956	3.9958	3.9958	3.9955	3.9955	3.996	3.9952	3.9957
S	M (x5)	$3.935\cdot10^{-4}$	$3.447\cdot10^{-4}$	$3.665\cdot10^{-4}$	$3.537\cdot10^{-4}$	$3.602\cdot10^{-4}$	$3.727\cdot10^{-4}$	$3.775\cdot10^{-4}$	$3.425\cdot10^{-4}$	$4.075\cdot10^{-4}$	$3.595\cdot10^{-4}$
	M (x6)	0.5358	0.5371	0.5364	0.5367	0.5367	0.5361	0.5361	0.5375	0.5356	0.5364
	Miss.	3.9971	3.9974	3.9973	3.9974	3.9973	3.9972	3.9972	3.9975	3.997	3.9973
T	M (x5)	0.5366	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5366	0.5348
	M (x6)	0.0063	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0029	0.5348
	Miss.	3.953	0.0006131	0.000501	0	0	0.0009198	0.0009198	0.0013607	3.9781	0.000501

Table A11-2. Experimental data of Comparation network with Capital English letters, K to T vs. Numerals, 0 to 9. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Input-1 patterns (5x5)		Input-2 patterns (5x5)									
		0	1	2	3	4	5	6	7	8	9
U	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0034	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9785	3.9779	3.9781	3.9781	3.9762	3.9743	3.9788	0	3.9779
V	M (x5)	0.5366	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5366	0.5348
	M (x6)	0.0063	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0029	0.5348
	Miss.	3.9528	0.0006131	0.000501	0	0	0.0009198	0.0009198	0.0013607	3.9781	0.000501
W	M (x5)	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015	0.5346	0.0016
	M (x6)	0.5358	0.5370	0.5363	0.5367	0.5367	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	3.9882	3.9882	3.9878	3.988	3.988	3.9879	3.9879	3.9885	0.0002244	3.9878
X	M (x5)	0.5366	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5348	0.5366	0.5348
	M (x6)	0.0062	0.5349	0.5348	0.5348	0.5348	0.5347	0.5347	0.5350	0.0029	0.5348
	Miss.	3.9535	0.0006131	0.000501	0	0	0.0009198	0.0009198	0.0013607	3.9781	0.000501
Y	M (x5)	0.5347	0.4397	0.5347	0.5347	0.5347	0.5347	0.5347	0.0243	0.5360	0.5347
	M (x6)	0.5347	0.4411	0.5348	0.5348	0.5348	0.5347	0.5347	0.5373	0.0032	0.5348
	Miss.	0.0003441	0.012334	0.0004188	0.0009198	0.0009198	0	0	3.8191	3.9764	0.0004188
Z	M (x5)	0.5346	0.0029	0.0030	0.0029	0.0029	0.0032	0.0032	0.0028	0.5346	0.0030
	M (x6)	0.5347	0.5370	0.5363	0.5366	0.5366	0.5360	0.5360	0.5374	0.5346	0.5363
	Miss.	0.0002693	3.9785	3.9779	3.9781	3.9781	3.9761	3.9762	3.9789	0	3.9779

Table A11-3. Experimental data of Comparation network with Capital English letters, U to Z vs. Numerals, 0 to 9. Each box has three entries, such that two are steady state (final iteration of simulation, 4000) of the average (median) node of respective M-field and bottom entry the mismatch value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. The retinal-map size is 5x5.

Comparand-1 Patterns (5x5)		Comparand-2 Patterns (5x5) 8	0	5, 6	2, 9	3, 4	1	7
G	α	-	-	-	-	-	-	-
	⍺	0.4027 (5) ⟹ 0.0885	0.4460 (6) ⟹ 0.0892	0.4814 (7) ⟹ 0.0962	0.5119 (8) ⟹ 0.1023	0.5382 (9) ⟹ 0.1076	0.5597 (10) ⟹ 0.1119	0.5773 (11) ⟹ 0.1154
B, E, S	α	-	-	-	-	-	-	-
	⍺	0.3223 (4) ⟹ 0.0741	0.3715 (5) ⟹ 0.0817	0.4117 (6) ⟹ 0.0823	0.4463 (7) ⟹ 0.0892	0.4760 (8) ⟹ 0.0952	0.5004 (9) ⟹ 0.1000	0.5205 (10) ⟹ 0.1041
R	α	-	-	-	-	-	-	-
	⍺	0.2380 (3) ⟹ 0.0595	0.2983 (4) ⟹ 0.0674	0.3385 (5) ⟹ 0.0744	0.3774 (6) ⟹ 0.0754	0.4109 (7) ⟹ 0.0821	0.4383 (8) ⟹ 0.0876	0.4608 (9) ⟹ 0.0921
D, P, Q, W	α	0.0769 (1) ⟹ 0.0307	-	-	-	-	-	-
	⍺	-	0.1439 (2) ⟹ 0.0460	0.1987 (3) ⟹ 0.0496	0.2457 (4) ⟹ 0.0565	0.2864 (5) ⟹ 0.0630	0.3195 (6) ⟹ 0.0639	0.3468 (7) ⟹ 0.0693
C, F, H, I, M, N, U, Z	α	0	0.0725 (1) ⟹ 0.0290	-	-	-	-	-
	⍺	-	-	0.1319 (2) ⟹ 0.0422	0.1829 (3) ⟹ 0.0457	0.2269 (4) ⟹ 0.0521	0.2628 (5) ⟹ 0.0578	0.2924 (6) ⟹ 0.0584
A, O	α	0.0725 (1) ⟹ 0.0290	0	0.0640 (1) ⟹ 0.0256	0.1190 (2) ⟹ 0.0380	-	-	-
	⍺	-	-	-	-	0.1664 (3) ⟹ 0.0416	0.2052 (4) ⟹ 0.0471	0.2371 (5) ⟹ 0.0521
K, Y	α	-	0.0640 (1) ⟹ 0.0256	0	0.0588 (1) ⟹ 0.0235	0.1094 (2) ⟹ 0.0350	0.1508 (3) ⟹ 0.0377	-
	⍺	0.1319 (2) ⟹ 0.0422	-	-	-	-	-	0.1849 (4) ⟹ 0.0425
J, T, V, X	α	-	-	0.1094 (2) ⟹ 0.0350	0.0538 (1) ⟹ 0.0215	0	0.0465 (1) ⟹ 0.0186	0.0848 (2) ⟹ 0.0271
	⍺	0.2269 (4) ⟹ 0.0521	0.1664 (3) ⟹ 0.0416	-	-	-	-	-
L	α	-	-	-	0.1340 (3) ⟹ 0.0335	0.0848 (2) ⟹ 0.0271	0.0400 (1) ⟹ 0.0160	0
	⍺	0.2924 (6) ⟹ 0.0584	0.2371 (5) ⟹ 0.0521	0.1849 (4) ⟹ 0.0425	-	-	-	-

Table A12. Demonstration of the diff-pc metric for the case of comparing Capital English against Arabic Numerals of retinal map size, 5x5. Every patterns has a corresponding cumulative pixel value, CPV. If two patterns have different CPV's, U and L such that U > L. Then difference-factor, diff-fact = (U – L) / U and difference-percentage, diff-pc = diff-fact • ppx. Every unique difference of number of non-zero pixels, px has an empirically determined parameter, ppx. Thus (px) → ppx. The ppx values are: (1) → 0.4, (2) → 0.32, (3) → 0.25, (4) → 0.23, (5) → 0.22, (6 to 10) → 0.8, (11 to 20) → 0.8•2 = 1.6, (21 to 30) → 0.8•3 = 2.4, (31 to 40) → 0.8•4 = 3.2, (41 to 50) → 0.8•5 = 4, (51 to 60) → 0.8•6 = 4.8 and so on… For each pattern-combo, value (diff-fact • ppx ⟹ diff-pc) depending upon the outcome, relationship (α, upper row; diff-pc < 4%) or non-relationship (⍺, lower row; diff-pc > 4%) is entered and "-" is entered for the non-outcome. The outcome are based on tables A11-1 to A11-3.

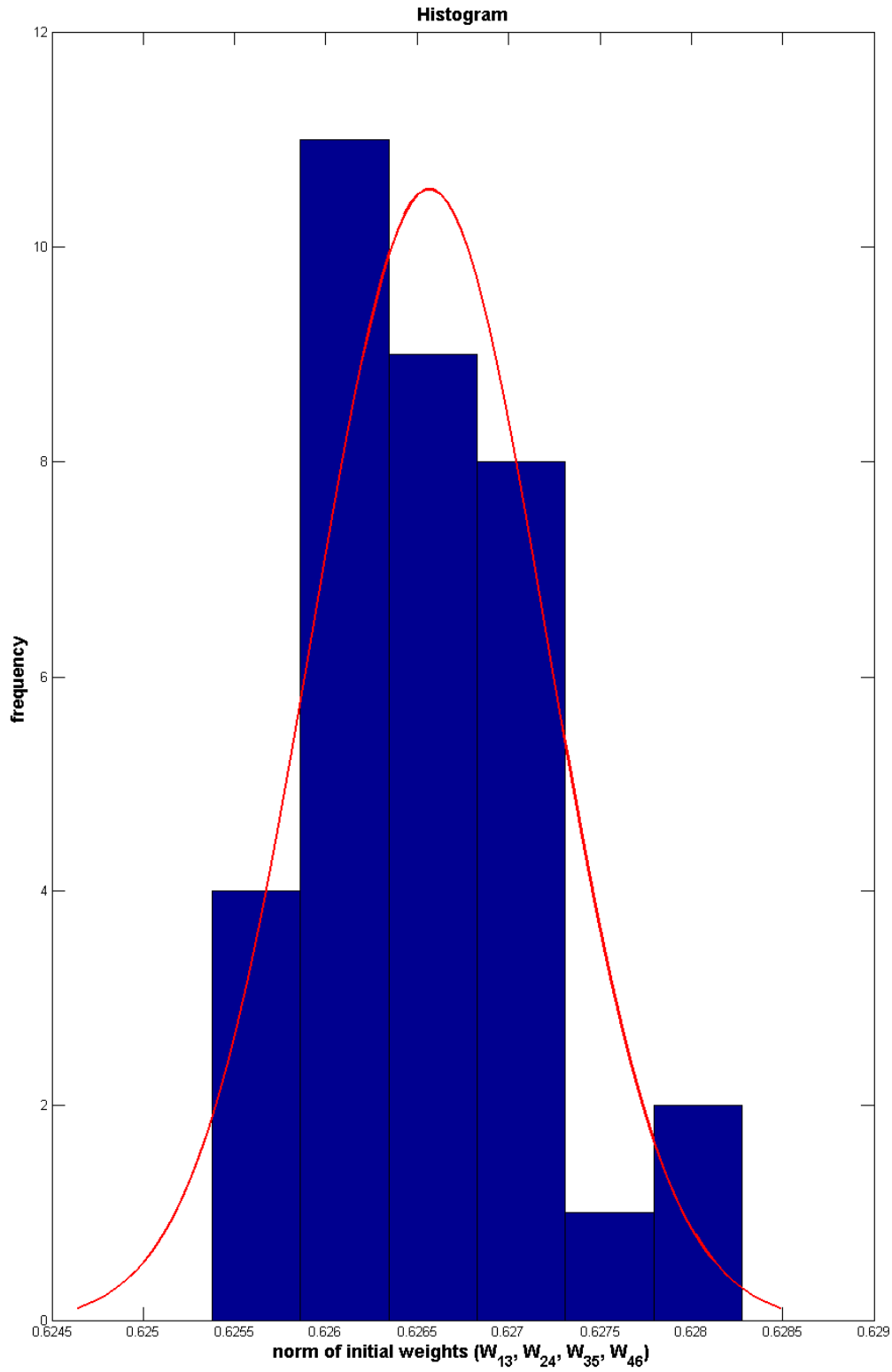

Figure A2. Histogram of norm of initial weights for paired t-test with sample size, 35. The superimposed normal (red) curve demonstrates randomly independent sample. Frequencies are for the infinity-norm of the vector composed of infinity-norm of the initial W_{13}, W_{24}, W_{35} and W_{46} matrices.

Input-1 patterns		Input-2 patterns												
		A	B	C	D	E	F	G	H	I	J	K	L	M
A	$\bar{x}_1$	0.5347	0.5358	0.5347	0.5358	0.5358	0.5347	0.5358	0.5347	0.5347	0.0080	0.5347	0.0062	0.5347
	$\bar{x}_2$	0.5347	$5.183\cdot10^{-4}$	0.5346	0.0025	$5.187\cdot10^{-4}$	0.5346	$3.267\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5347	0.5374	0.5346
	C.I	[0, 0]	[0.5353, 0.5353]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[0.5333, 0.5333]	[0.5353, 0.5353]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[0.5355, 0.5355]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[-0.5286, -0.5285]	[$-4.6\cdot10^{-5}$, $-4.6\cdot10^{-5}$]	[-0.5312, -0.5312]	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]
	p-value	-	$1.45\cdot10^{-168}$	0	$5.59\cdot10^{-137}$	$1.11\cdot10^{-165}$	0	$6.02\cdot10^{-168}$	0	0	$1.13\cdot10^{-117}$	0	$1.16\cdot10^{-140}$	0
B	$\bar{x}_1$	$5.207\cdot10^{-4}$	0.5346	$5.750\cdot10^{-4}$	$6.710\cdot10^{-4}$	0.5346	$5.756\cdot10^{-4}$	0.5349	$5.740\cdot10^{-4}$	$5.756\cdot10^{-4}$	$4.396\cdot10^{-4}$	$4.828\cdot10^{-4}$	$4.137\cdot10^{-4}$	$5.746\cdot10^{-4}$
	$\bar{x}_2$	0.5358	0.5346	0.5356	0.5354	0.5346	0.5356	0.0029	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	C.I	[-0.5353, -0.5353]	[0, 0]	[-0.5350, -0.5350]	[-0.5347, -0.5347]	[0, 0]	[-0.5350, -0.5350]	[0.5320, 0.5321]	[-0.5350, -0.5350]	[-0.5350, -0.5350]	[-0.5363, -0.5363]	[-0.5356, -0.5356]	[-0.5371, -0.5371]	[-0.5350, -0.5350]
	p-value	$7.64\cdot10^{-164}$	-	$1.73\cdot10^{-173}$	$3.97\cdot10^{-170}$	-	$1.08\cdot10^{-166}$	$9.34\cdot10^{-130}$	$2.47\cdot10^{-168}$	$6.47\cdot10^{-168}$	$1.69\cdot10^{-166}$	$8.49\cdot10^{-167}$	$2.56\cdot10^{-169}$	$3.47\cdot10^{-169}$
C	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0055	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.753\cdot10^{-4}$	0.5346	0.5346	$5.754\cdot10^{-4}$	0.5346	$3.543\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5306, -0.5305]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$1.75\cdot10^{-171}$	-	0	$1.36\cdot10^{-172}$	-	$6.43\cdot10^{-169}$	-	-	$1.04\cdot10^{-161}$	$3.51\cdot10^{-117}$	$1.19\cdot10^{-153}$	-
D	$\bar{x}_1$	0.0025	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0019	0.0021	0.0017	0.5346
	$\bar{x}_2$	0.5358	$6.710\cdot10^{-4}$	0.5346	0.5346	$6.697\cdot10^{-4}$	0.5346	$4.03\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	C.I	[-0.5333, -0.5333]	[0.5347, 0.5347]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[0, 0]	[0.5347, 0.5347]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[0.5350, 0.5350]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	[-0.5357, -0.5357]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]
	p-value	$2.60\cdot10^{-146}$	$2.47\cdot10^{-172}$	0	-	$2.16\cdot10^{-170}$	0	$5.69\cdot10^{-170}$	0	0	$5.98\cdot10^{-162}$	$3.16\cdot10^{-174}$	$8.05\cdot10^{-160}$	0
E	$\bar{x}_1$	$5.186\cdot10^{-4}$	0.5346	$5.760\cdot10^{-4}$	$6.710\cdot10^{-4}$	0.5346	$5.757\cdot10^{-4}$	0.5349	$5.758\cdot10^{-4}$	$5.755\cdot10^{-4}$	$4.406\cdot10^{-4}$	$4.827\cdot10^{-4}$	$4.144\cdot10^{-4}$	$5.750\cdot10^{-4}$
	$\bar{x}_2$	0.5358	0.5346	0.5356	0.5354	0.5346	0.5356	0.0028	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	C.I	[-0.5353, -0.5353]	[0, 0]	[-0.5350, -0.5350]	[-0.5347, -0.5347]	[0, 0]	[-0.5350, -0.5350]	[0.5321, 0.5321]	[-0.5350, -0.5350]	[-0.5350, -0.5350]	[-0.5363, -0.5363]	[-0.5356, -0.5356]	[-0.5371, -0.5371]	[-0.5350, -0.5350]
	p-value	$4.81\cdot10^{-166}$	-	$1.39\cdot10^{-168}$	$3.32\cdot10^{-171}$	-	$3.22\cdot10^{-167}$	$9.11\cdot10^{-130}$	$3.70\cdot10^{-168}$	$8.43\cdot10^{-169}$	$1.13\cdot10^{-165}$	$4.56\cdot10^{-168}$	$6.35\cdot10^{-168}$	$1.24\cdot10^{-167}$

Table A13-1. Statistical t-test results for Comparation network with Capital English letters, A to E vs. A to M. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
A	$\bar{x}_1$	0.5347	0.5347	0.5358	0.5358	0.5358	0.5358	0.0080	0.5347	0.0080	0.5358	0.0080	0.5347	0.5347
	$\bar{x}_2$	0.5346	0.5347	0.0025	0.0025	$8.349\cdot10^{-4}$	$5.187\cdot10^{-4}$	0.5366	0.5346	0.5366	0.0025	0.5366	0.5347	0.5346
	C.I	$[3.6\cdot10^{-5}, 3.6\cdot10^{-5}]$	[0, 0]	[0.5333, 0.5333]	[0.5333, 0.5333]	[0.5350, 0.5350]	[0.5353, 0.5353]	[-0.5286, -0.5285]	$[3.6\cdot10^{-5}, 3.6\cdot10^{-5}]$	[-0.5286, -0.5285]	[0.5333, 0.5333]	[-0.5286, -0.5285]	$[-4.6\cdot10^{-5}, -4.6\cdot10^{-5}]$	$[3.6\cdot10^{-5}, 3.6\cdot10^{-5}]$
	p-value	0	-	$1.69\cdot10^{-141}$	$6.51\cdot10^{-140}$	$8.40\cdot10^{-168}$	$6.98\cdot10^{-166}$	$1.68\cdot10^{-121}$	0	$1.61\cdot10^{-114}$	$4.13\cdot10^{-139}$	$4.0\cdot10^{-117}$	0	0
B	$\bar{x}_1$	$5.753\cdot10^{-4}$	$5.194\cdot10^{-4}$	$6.694\cdot10^{-4}$	$6.696\cdot10^{-4}$	0.0023	0.5346	$4.403\cdot10^{-4}$	$5.753\cdot10^{-4}$	$4.399\cdot10^{-4}$	$6.702\cdot10^{-4}$	$4.406\cdot10^{-4}$	$4.829\cdot10^{-4}$	$5.749\cdot10^{-4}$
	$\bar{x}_2$	0.5356	0.5358	0.5354	0.5354	0.5351	0.5346	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	C.I	[-0.5350, -0.5350]	[-0.5353, -0.5353]	[-0.5347, -0.5347]	[-0.5347, -0.5347]	[-0.5328, -0.5328]	[0, 0]	[-0.5363, -0.5363]	[-0.5350, -0.5350]	[-0.5363, -0.5363]	[-0.5347, -0.5347]	[-0.5363, -0.5363]	[-0.5356, -0.5356]	[-0.5350, -0.5350]
	p-value	$1.19\cdot10^{-167}$	$3.79\cdot10^{-166}$	$1.64\cdot10^{-171}$	$1.75\cdot10^{-172}$	$5.31\cdot10^{-127}$	-	$7.49\cdot10^{-166}$	$1.20\cdot10^{-166}$	$1.63\cdot10^{-163}$	$1.33\cdot10^{-171}$	$2.48\cdot10^{-162}$	$3.54\cdot10^{-165}$	$5.13\cdot10^{-169}$
C	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0054	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.263\cdot10^{-4}$	$5.772\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	$[-3.6\cdot10^{-5}, -3.6\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5333, -0.5332]	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[-0.5332, -0.5332]	[-0.5307, -0.5305]	[0, 0]
	p-value	-	0	0	0	$5.22\cdot10^{-176}$	$3.89\cdot10^{-167}$	$3.01\cdot10^{-159}$	-	$1.68\cdot10^{-163}$	0	$2.57\cdot10^{-161}$	$5.95\cdot10^{-115}$	-
D	$\bar{x}_1$	0.5346	0.0025	0.5346	0.5346	0.5354	0.5354	0.0019	0.5346	0.0019	0.5346	0.0019	0.0021	0.5346
	$\bar{x}_2$	0.5346	0.5358	0.5346	0.5346	0.0011	$6.716\cdot10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	C.I	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5333, -0.5333]	[0, 0]	[0, 0]	[0.5343, 0.5343]	[0.5347, 0.5347]	[-0.5348, -0.5348]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5348, -0.5348]	[0, 0]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$
	p-value	0	$1.21\cdot10^{-141}$	-	-	$8.29\cdot10^{-168}$	$6.64\cdot10^{-174}$	$1.81\cdot10^{-165}$	0	$3.86\cdot10^{-162}$	-	$1.90\cdot10^{-164}$	$1.38\cdot10^{-173}$	0
E	$\bar{x}_1$	$5.752\cdot10^{-4}$	$5.194\cdot10^{-4}$	$6.699\cdot10^{-4}$	$6.697\cdot10^{-4}$	0.0023	0.5346	$4.407\cdot10^{-4}$	$5.736\cdot10^{-4}$	$4.390\cdot10^{-4}$	$6.688\cdot10^{-4}$	$4.418\cdot10^{-4}$	$4.833\cdot10^{-4}$	$5.772\cdot10^{-4}$
	$\bar{x}_2$	0.5356	0.5358	0.5354	0.5354	0.5351	0.5346	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	C.I	[-0.5350, -0.5350]	[-0.5353, -0.5353]	[-0.5347, -0.5347]	[-0.5347, -0.5347]	[-0.5328, -0.5328]	[0, 0]	[-0.5363, -0.5363]	[-0.5350, -0.5350]	[-0.5363, -0.5363]	[-0.5347, -0.5347]	[-0.5363, -0.5363]	[-0.5356, -0.5356]	[-0.5350, -0.5350]
	p-value	$5.69\cdot10^{-167}$	$1.20\cdot10^{-166}$	$4.58\cdot10^{-172}$	$1.01\cdot10^{-173}$	$2.21\cdot10^{-130}$	-	$4.80\cdot10^{-164}$	$5.87\cdot10^{-171}$	$2.77\cdot10^{-170}$	$4.24\cdot10^{-173}$	$2.45\cdot10^{-164}$	$4.40\cdot10^{-165}$	$4.78\cdot10^{-168}$

Table A13-2. Statistical t-test results for Comparation network with Capital English letters, A to E vs. N to Z. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

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Input-1 patterns		Input-2 patterns												
		A	B	C	D	E	F	G	H	I	J	K	L	M
F	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0055	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.751\cdot10^{-4}$	0.5346	0.5346	$5.750\cdot10^{-4}$	0.5346	$3.570\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5306, -0.5304]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$2.58\cdot10^{-173}$	-	0	$5.68\cdot10^{-168}$	-	$6.19\cdot10^{-166}$	-	-	$3.07\cdot10^{-159}$	$2.27\cdot10^{-109}$	$3.21\cdot10^{-158}$	-
G	$\bar{x}_1$	$3.258\cdot10^{-4}$	0.0029	$3.551\cdot10^{-4}$	$4.02\cdot10^{-4}$	0.0029	$3.533\cdot10^{-4}$	0.5345	$3.532\cdot10^{-4}$	$3.548\cdot10^{-4}$	$2.838\cdot10^{-4}$	$3.061\cdot10^{-4}$	$2.688\cdot10^{-4}$	$3.532\cdot10^{-4}$
	$\bar{x}_2$	0.5358	0.5349	0.5356	0.5354	0.5349	0.5356	0.5345	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	C.I	[-0.5355, -0.5355]	[-0.5321, -0.5320]	[-0.5352, -0.5352]	[-0.5350, -0.5350]	[-0.5321, -0.5320]	[-0.5352, -0.5352]	[0, 0]	[-0.5352, -0.5352]	[-0.5352, -0.5352]	[-0.5364, -0.5364]	[-0.5358, -0.5358]	[-0.5372, -0.5372]	[-0.5352, -0.5352]
	p-value	$1.08\cdot10^{-168}$	$5.53\cdot10^{-131}$	$1.60\cdot10^{-169}$	$3.72\cdot10^{-172}$	$7.57\cdot10^{-130}$	$7.05\cdot10^{-171}$	-	$8.47\cdot10^{-173}$	$8.55\cdot10^{-170}$	$6\cdot10^{-169}$	$3.03\cdot10^{-169}$	$1.06\cdot10^{-168}$	$2.17\cdot10^{-168}$
H	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0057	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.739\cdot10^{-4}$	0.5346	0.5346	$5.765\cdot10^{-4}$	0.5346	$3.557\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5305, -0.5302]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$6.45\cdot10^{-168}$	-	0	$6.10\cdot10^{-166}$	-	$1.08\cdot10^{-167}$	-	-	$1.62\cdot10^{-156}$	$4.79\cdot10^{-105}$	$2.30\cdot10^{-152}$	-
I	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0055	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.757\cdot10^{-4}$	0.5346	0.5346	$5.763\cdot10^{-4}$	0.5346	$3.543\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5307, -0.5303]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$2.89\cdot10^{-169}$	-	0	$4.64\cdot10^{-169}$	-	$6.53\cdot10^{-170}$	-	-	$1.33\cdot10^{-160}$	$2.38\cdot10^{-105}$	$2.44\cdot10^{-151}$	-
J	$\bar{x}_1$	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0080	$4.4\cdot10^{-4}$	0.0034	0.0019	$4.424\cdot10^{-4}$	0.0034	$2.839\cdot10^{-4}$	0.0034	0.0034	0.5348	0.5347	0.5350	0.0034
	C.I	[0.5286, 0.5287]	[0.5363, 0.5363]	[0.5332, 0.5333]	[0.5348, 0.5348]	[0.5363, 0.5363]	[0.5332, 0.5332]	[0.5364, 0.5364]	[0.5332, 0.5332]	[0.5332, 0.5333]	[0, 0]	[$1.2\cdot10^{-4}$, $1.2\cdot10^{-4}$]	[$-1.8\cdot10^{-4}$, $-1.8\cdot10^{-4}$]	[0.5332, 0.5332]
	p-value	$1.57\cdot10^{-120}$	$5.69\cdot10^{-165}$	$8.35\cdot10^{-160}$	$9.83\cdot10^{-165}$	$3.52\cdot10^{-164}$	$6.07\cdot10^{-162}$	$2.16\cdot10^{-168}$	$1.62\cdot10^{-160}$	$1.32\cdot10^{-160}$	-	0	0	$6.38\cdot10^{-156}$

Table A13-3. Statistical t-test results for Comparation network with Capital English letters, F to J vs. A to M. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
F	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0053	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.277\cdot10^{-4}$	$5.761\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	$[-3.6\cdot10^{-5}, -3.6\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5332, -0.5332]	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[-0.5332, -0.5332]	[-0.5307, -0.5306]	[0, 0]
	p-value	-	0	0	0	$5.72\cdot10^{-176}$	$8.12\cdot10^{-172}$	$9.81\cdot10^{-159}$	-	$2.28\cdot10^{-156}$	0	$1.31\cdot10^{-163}$	$9.74\cdot10^{-118}$	-
G	$\bar{x}_1$	$3.534\cdot10^{-4}$	$3.271\cdot10^{-4}$	$4.018\cdot10^{-4}$	$4.015\cdot10^{-4}$	$7.720\cdot10^{-4}$	0.0029	$2.848\cdot10^{-4}$	$3.544\cdot10^{-4}$	$2.844\cdot10^{-4}$	$4\cdot10^{-4}$	$2.852\cdot10^{-4}$	$3.067\cdot10^{-4}$	$3.557\cdot10^{-4}$
	$\bar{x}_2$	0.5356	0.5358	0.5354	0.5354	0.5351	0.5349	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	C.I	[-0.5352, -0.5352]	[-0.5355, -0.5355]	[-0.5350, -0.5350]	[-0.5350, -0.5350]	[-0.5343, -0.5343]	[-0.5321, -0.5321]	[-0.5364, -0.5364]	[-0.5352, -0.5352]	[-0.5364, -0.5364]	[-0.5350, -0.5350]	[-0.5364, -0.5364]	[-0.5358, -0.5358]	[-0.5352, -0.5352]
	p-value	$1.78\cdot10^{-169}$	$9.80\cdot10^{-167}$	$3.59\cdot10^{-170}$	$5.52\cdot10^{-169}$	$1.78\cdot10^{-159}$	$8.15\cdot10^{-129}$	$1.25\cdot10^{-166}$	$6.46\cdot10^{-170}$	$4.11\cdot10^{-171}$	$3.96\cdot10^{-173}$	$1.46\cdot10^{-166}$	$5.70\cdot10^{-171}$	$1.25\cdot10^{-169}$
H	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0056	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.264\cdot10^{-4}$	$5.752\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	$[-3.6\cdot10^{-5}, -3.6\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5332, -0.5332]	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[-0.5332, -0.5332]	[-0.5306, -0.5303]	[0, 0]
	p-value	-	0	0	0	$5.49\cdot10^{-177}$	$3.09\cdot10^{-170}$	$3.08\cdot10^{-156}$	-	$8.74\cdot10^{-158}$	0	$1.79\cdot10^{-156}$	$5.81\cdot10^{-106}$	-
I	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0055	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.286\cdot10^{-4}$	$5.760\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	$[-3.6\cdot10^{-5}, -3.6\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5332, -0.5332]	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[-0.5332, -0.5332]	[-0.5307, -0.5304]	[0, 0]
	p-value	-	0	0	0	$1.58\cdot10^{-174}$	$1.72\cdot10^{-169}$	$7.87\cdot10^{-160}$	-	$7.08\cdot10^{-160}$	0	$6.64\cdot10^{-160}$	$2.25\cdot10^{-107}$	-
J	$\bar{x}_1$	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0034	0.0079	0.0019	0.0019	$6.879\cdot10^{-4}$	$4.413\cdot10^{-4}$	0.5348	0.0034	0.5348	0.0019	0.5348	0.5347	0.0034
	C.I	[0.5332, 0.5332]	[0.5286, 0.5287]	[0.5348, 0.5348]	[0.5348, 0.5348]	[0.5360, 0.5360]	[0.5363, 0.5363]	[0, 0]	[0.5332, 0.5332]	[0, 0]	[0.5348, 0.5348]	[0, 0]	$[1.2\cdot10^{-4}, 1.2\cdot10^{-4}]$	[0.5332, 0.5333]
	p-value	$5.09\cdot10^{-158}$	$1.15\cdot10^{-121}$	$6.61\cdot10^{-166}$	$2.43\cdot10^{-160}$	$1.43\cdot10^{-161}$	$8.25\cdot10^{-164}$	-	$1.44\cdot10^{-156}$	-	$3.37\cdot10^{-162}$	-	0	$1.84\cdot10^{-162}$

Table A13-4. Statistical t-test results for Comparation network with Capital English letters, F to J vs. N to Z. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		A	B	C	D	E	F	G	H	I	J	K	L	M
K	$\bar{x}_1$	0.5347	0.5361	0.5360	0.5360	0.5361	0.5360	0.5361	0.5360	0.5360	0.5347	0.5347	0.0210	0.5360
	$\bar{x}_2$	0.5347	$4.839\cdot10^{-4}$	0.0055	0.0021	$4.817\cdot10^{-4}$	0.0055	$3.085\cdot10^{-4}$	0.0055	0.0054	0.5348	0.5347	0.5373	0.0057
	C.I	[$4.6\cdot10^{-5}$, $4.6\cdot10^{-5}$]	[0.5356, 0.5356]	[0.5305, 0.5307]	[0.5339, 0.5339]	[0.5356, 0.5356]	[0.5305, 0.5307]	[0.5358, 0.5358]	[0.5304, 0.5307]	[0.5306, 0.5307]	[$-1.2\cdot10^{-4}$, $-1.2\cdot10^{-4}$]	[0, 0]	[-0.5167, -0.5160]	[0.5302, 0.5305]
	p-value	0	$3.83\cdot10^{-163}$	$2.54\cdot10^{-115}$	$1.22\cdot10^{-172}$	$1.48\cdot10^{-165}$	$2.01\cdot10^{-110}$	$9.99\cdot10^{-168}$	$6.51\cdot10^{-110}$	$3.09\cdot10^{-113}$	0	-	$5.18\cdot10^{-94}$	$2.47\cdot10^{-104}$
L	$\bar{x}_1$	0.5374	0.5375	0.5374	0.5374	0.5375	0.5374	0.5375	0.5374	0.5374	0.5350	0.5373	0.5350	0.5374
	$\bar{x}_2$	0.0062	$4.167\cdot10^{-4}$	0.0031	0.0017	$4.163\cdot10^{-4}$	0.0031	$2.716\cdot10^{-4}$	0.0031	0.0031	0.5348	0.0210	0.5350	0.0031
	C.I	[0.5312, 0.5312]	[0.5371, 0.5371]	[0.5343, 0.5343]	[0.5357, 0.5357]	[0.5371, 0.5371]	[0.5343, 0.5343]	[0.5372, 0.5372]	[0.5343, 0.5343]	[0.5343, 0.5343]	[$1.8\cdot10^{-4}$, $1.8\cdot10^{-4}$]	[0.5159, 0.5166]	[0, 0]	[0.5343, 0.5343]
	p-value	$9.68\cdot10^{-143}$	$1.08\cdot10^{-163}$	$7.37\cdot10^{-154}$	$3.35\cdot10^{-157}$	$1.19\cdot10^{-162}$	$1.09\cdot10^{-153}$	$1.65\cdot10^{-165}$	$4.27\cdot10^{-150}$	$2.27\cdot10^{-153}$	0	$3.31\cdot10^{-92}$	-	$3.95\cdot10^{-151}$
M	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0056	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.753\cdot10^{-4}$	0.5346	0.5346	$5.748\cdot10^{-4}$	0.5346	$3.543\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5305, -0.5303]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$2.78\cdot10^{-169}$	-	0	$4.63\cdot10^{-170}$	-	$5.21\cdot10^{-170}$	-	-	$6.21\cdot10^{-156}$	$4.29\cdot10^{-107}$	$6.07\cdot10^{-151}$	-
N	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0056	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.754\cdot10^{-4}$	0.5346	0.5346	$5.746\cdot10^{-4}$	0.5346	$3.541\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5305, -0.5303]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$7.7\cdot10^{-168}$	-	0	$7.27\cdot10^{-168}$	-	$1.83\cdot10^{-168}$	-	-	$6.07\cdot10^{-157}$	$1.35\cdot10^{-109}$	$5.47\cdot10^{-151}$	-
O	$\bar{x}_1$	0.5347	0.5358	0.5347	0.5358	0.5358	0.5347	0.5358	0.5347	0.5347	0.0079	0.5347	0.0062	0.5347
	$\bar{x}_2$	0.5347	$5.199\cdot10^{-4}$	0.5346	0.0025	$5.217\cdot10^{-4}$	0.5346	$3.265\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5347	0.5374	0.5346
	C.I	[0, 0]	[0.5353, 0.5353]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[0.5333, 0.5333]	[0.5353, 0.5353]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[0.5355, 0.5355]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[-0.5288, -0.5287]	[$-4.6\cdot10^{-5}$, $-4.6\cdot10^{-5}$]	[-0.5312, -0.5312]	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]
	p-value	-	$2.83\cdot10^{-166}$	0	$2.15\cdot10^{-138}$	$4.01\cdot10^{-164}$	0	$3.29\cdot10^{-169}$	0	0	$3.49\cdot10^{-122}$	0	$3.48\cdot10^{-147}$	0

Table A13-5. Statistical t-test results for Comparation network with Capital English letters, K to O vs. A to M. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
K	$\bar{x}_1$	0.5360	0.5347	0.5360	0.5360	0.5361	0.5361	0.5347	0.5360	0.5347	0.5360	0.5347	0.5347	0.5360
	$\bar{x}_2$	0.0059	0.5347	0.0021	0.0021	$7.68\cdot10^{-4}$	$4.815\cdot10^{-4}$	0.5348	0.0059	0.5348	0.0021	0.5348	0.5347	0.0054
	C.I	[0.5300, 0.5303]	[$4.6\cdot10^{-5}$, $4.6\cdot10^{-5}$]	[0.5339, 0.5339]	[0.5339, 0.5339]	[0.5353, 0.5353]	[0.5356, 0.5356]	[$-1.2\cdot10^{-4}$, $-1.2\cdot10^{-4}$]	[0.5300, 0.5303]	[$-1.2\cdot10^{-4}$, $-1.2\cdot10^{-4}$]	[0.5339, 0.5339]	[$-1.2\cdot10^{-4}$, $-1.2\cdot10^{-4}$]	[0, 0]	[0.5305, 0.5307]
	p-value	$8.92\cdot10^{-105}$	0	$4.72\cdot10^{-174}$	$1.94\cdot10^{-171}$	$1.77\cdot10^{-163}$	$2.99\cdot10^{-165}$	0	$3.74\cdot10^{-104}$	0	$4.54\cdot10^{-173}$	0	-	$8.2\cdot10^{-116}$
L	$\bar{x}_1$	0.5374	0.5374	0.5374	0.5374	0.5375	0.5375	0.5350	0.5374	0.5350	0.5374	0.5350	0.5373	0.5374
	$\bar{x}_2$	0.0031	0.0062	0.0017	0.0017	$6.43\cdot10^{-4}$	$4.16\cdot10^{-4}$	0.5348	0.0031	0.5348	0.0017	0.5348	0.0211	0.0031
	C.I	[0.5343, 0.5343]	[0.5312, 0.5312]	[0.5357, 0.5357]	[0.5357, 0.5357]	[0.5368, 0.5368]	[0.5371, 0.5371]	[$1.8\cdot10^{-4}$, $1.8\cdot10^{-4}$]	[0.5343, 0.5343]	[$1.8\cdot10^{-4}$, $1.8\cdot10^{-4}$]	[0.5357, 0.5357]	[$1.8\cdot10^{-4}$, $1.8\cdot10^{-4}$]	[0.5158, 0.5166]	[0.5343, 0.5343]
	p-value	$6.76\cdot10^{-152}$	$4.61\cdot10^{-148}$	$6.37\cdot10^{-161}$	$1.43\cdot10^{-154}$	$1.36\cdot10^{-159}$	$4.37\cdot10^{-162}$	0	$5.39\cdot10^{-153}$	0	$1.84\cdot10^{-155}$	0	$2.20\cdot10^{-91}$	$2.45\cdot10^{-153}$
M	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0057	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.265\cdot10^{-4}$	$5.755\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5332, -0.5332]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[-0.5332, -0.5332]	[-0.5305, -0.5301]	[0, 0]
	p-value	-	0	0	0	$3.02\cdot10^{-176}$	$5.39\cdot10^{-170}$	$4.09\cdot10^{-157}$	-	$1.36\cdot10^{-156}$	0	$3.38\cdot10^{-155}$	$7.67\cdot10^{-106}$	-
N	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0057	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.265\cdot10^{-4}$	$5.742\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5332, -0.5332]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[-0.5332, -0.5332]	[-0.5305, -0.5301]	[0, 0]
	p-value	-	0	0	0	$5.11\cdot10^{-176}$	$8.37\cdot10^{-170}$	$2.86\cdot10^{-159}$	-	$1.93\cdot10^{-158}$	0	$3.63\cdot10^{-157}$	$2.57\cdot10^{-103}$	-
O	$\bar{x}_1$	0.5347	0.5347	0.5358	0.5358	0.5358	0.5358	0.0079	0.5347	0.0079	0.5358	0.0079	0.5347	0.5347
	$\bar{x}_2$	0.5346	0.5347	0.0025	0.0025	$8.342\cdot10^{-4}$	$5.223\cdot10^{-4}$	0.5366	0.5346	0.5366	0.0025	0.5366	0.5347	0.5346
	C.I	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[0, 0]	[0.5333, 0.5333]	[0.5333, 0.5333]	[0.5350, 0.5350]	[0.5353, 0.5353]	[-0.5287, -0.5286]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]	[-0.5288, -0.5286]	[0.5333, 0.5333]	[-0.5287, -0.5286]	[$-4.6\cdot10^{-5}$, $-4.6\cdot10^{-5}$]	[$3.6\cdot10^{-5}$, $3.6\cdot10^{-5}$]
	p-value	0	-	$4.13\cdot10^{-142}$	$1.91\cdot10^{-141}$	$8.98\cdot10^{-167}$	$7.72\cdot10^{-165}$	$3.74\cdot10^{-124}$	0	$5.77\cdot10^{-119}$	$2.07\cdot10^{-137}$	$7.18\cdot10^{-123}$	0	0

Table A13-6. Statistical t-test results for Comparation network with Capital English letters, K to O vs. N to Z. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		A	B	C	D	E	F	G	H	I	J	K	L	M
P	$\bar{x}_1$	0.0025	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0019	0.0021	0.0017	0.5346
	$\bar{x}_2$	0.5358	$6.724\cdot10^{-4}$	0.5346	0.5346	$6.705\cdot10^{-4}$	0.5346	$4.03\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	C.I	[-0.5333, -0.5333]	[0.5347, 0.5347]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[0, 0]	[0.5347, 0.5347]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[0.5350, 0.5350]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	[-0.5357, -0.5357]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]
	p-value	$5.16\cdot10^{-146}$	$3.59\cdot10^{-169}$	0	-	$3.14\cdot10^{-172}$	0	$9.47\cdot10^{-170}$	0	0	$3.51\cdot10^{-164}$	$2.99\cdot10^{-174}$	$1.60\cdot10^{-157}$	0
Q	$\bar{x}_1$	0.0025	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0019	0.0021	0.0017	0.5346
	$\bar{x}_2$	0.5358	$6.718\cdot10^{-4}$	0.5346	0.5346	$6.695\cdot10^{-4}$	0.5346	$4.01\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	C.I	[-0.5333, -0.5333]	[0.5347, 0.5347]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[0, 0]	[0.5347, 0.5347]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[0.5350, 0.5350]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	[-0.5357, -0.5357]	[$-3\cdot10^{-5}$, $-3\cdot10^{-5}$]
	p-value	$7.13\cdot10^{-138}$	$2.84\cdot10^{-168}$	0	-	$1.27\cdot10^{-172}$	0	$1.42\cdot10^{-167}$	0	0	$7.47\cdot10^{-159}$	$1.96\cdot10^{-173}$	$1.45\cdot10^{-157}$	0
R	$\bar{x}_1$	$8.344\cdot10^{-4}$	0.5351	$9.27\cdot10^{-4}$	0.0011	0.5351	$9.276\cdot10^{-4}$	0.5351	$9.259\cdot10^{-4}$	$9.281\cdot10^{-4}$	$6.859\cdot10^{-4}$	$7.683\cdot10^{-4}$	$6.412\cdot10^{-4}$	$9.261\cdot10^{-4}$
	$\bar{x}_2$	0.5358	0.0023	0.5356	0.5354	0.0023	0.5356	$7.752\cdot10^{-4}$	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	C.I	[-0.5350, -0.5350]	[0.5327, 0.5328]	[-0.5346, -0.5346]	[-0.5343, -0.5343]	[0.5328, 0.5328]	[-0.5346, -0.5346]	[0.5343, 0.5343]	[-0.5347, -0.5346]	[-0.5346, -0.5346]	[-0.5360, -0.5360]	[-0.5353, -0.5353]	[-0.5368, -0.5368]	[-0.5347, -0.5346]
	p-value	$1\cdot10^{-169}$	$3.53\cdot10^{-127}$	$2.14\cdot10^{-181}$	$4.59\cdot10^{-168}$	$3.71\cdot10^{-132}$	$5.59\cdot10^{-176}$	$1.09\cdot10^{-163}$	$1.19\cdot10^{-174}$	$5.36\cdot10^{-176}$	$1.36\cdot10^{-166}$	$1.78\cdot10^{-166}$	$1.04\cdot10^{-162}$	$2.38\cdot10^{-174}$
S	$\bar{x}_1$	$5.180\cdot10^{-4}$	0.5346	$5.767\cdot10^{-4}$	$6.694\cdot10^{-4}$	0.5346	$5.750\cdot10^{-4}$	0.5349	$5.758\cdot10^{-4}$	$5.763\cdot10^{-4}$	$4.390\cdot10^{-4}$	$4.838\cdot10^{-4}$	$4.137\cdot10^{-4}$	$5.737\cdot10^{-4}$
	$\bar{x}_2$	0.5358	0.5346	0.5356	0.5354	0.5346	0.5356	0.0029	0.5356	0.5356	0.5367	0.5361	0.5375	0.5356
	C.I	[-0.5353, -0.5353]	[0, 0]	[-0.5350, -0.5350]	[-0.5347, -0.5347]	[0, 0]	[-0.5350, -0.5350]	[0.5320, 0.5321]	[-0.5350, -0.5350]	[-0.5350, -0.5350]	[-0.5363, -0.5363]	[-0.5356, -0.5356]	[-0.5371, -0.5371]	[-0.5350, -0.5350]
	p-value	$5.96\cdot10^{-172}$	-	$8.74\cdot10^{-168}$	$4.17\cdot10^{-174}$	-	$2.01\cdot10^{-170}$	$3.52\cdot10^{-127}$	$9.16\cdot10^{-166}$	$3.79\cdot10^{-172}$	$6.53\cdot10^{-167}$	$1.87\cdot10^{-162}$	$2.59\cdot10^{-166}$	$4.1\cdot10^{-174}$
T	$\bar{x}_1$	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0080	$4.406\cdot10^{-4}$	0.0034	0.0019	$4.405\cdot10^{-4}$	0.0034	$2.829\cdot10^{-4}$	0.0034	0.0034	0.5348	0.5347	0.5350	0.0034
	C.I	[0.5286, 0.5287]	[0.5363, 0.5363]	[0.5332, 0.5332]	[0.5348, 0.5348]	[0.5363, 0.5363]	[0.5332, 0.5332]	[0.5364, 0.5364]	[0.5332, 0.5332]	[0.5332, 0.5332]	[0, 0]	[$1.2\cdot10^{-4}$, $1.2\cdot10^{-4}$]	[$-1.8\cdot10^{-4}$, $-1.8\cdot10^{-4}$]	[0.5332, 0.5332]
	p-value	$5.46\cdot10^{-116}$	$2.01\cdot10^{-165}$	$2.16\cdot10^{-162}$	$1.02\cdot10^{-162}$	$3.44\cdot10^{-164}$	$1.11\cdot10^{-160}$	$2.06\cdot10^{-170}$	$8.29\cdot10^{-156}$	$6.55\cdot10^{-160}$	-	0	0	$3.87\cdot10^{-159}$

Table A13-7. Statistical t-test results for Comparation network with Capital English letters, P to T vs. A to M. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
P	$\bar{x}_1$	0.5346	0.0025	0.5346	0.5346	0.5354	0.5354	0.0019	0.5346	0.0019	0.5346	0.0019	0.0021	0.5346
	$\bar{x}_2$	0.5346	0.5358	0.5346	0.5346	0.0011	$6.721\cdot10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	C.I	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5333, -0.5333]	[0, 0]	[0, 0]	[0.5343, 0.5343]	[0.5347, 0.5347]	[-0.5348, -0.5348]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5348, -0.5348]	[0, 0]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	$[3\cdot10^{-5}, 3\cdot10^{-5}]$
	p-value	0	$6.81\cdot10^{-143}$	-	-	$2.75\cdot10^{-170}$	$1.7\cdot10^{-172}$	$2.39\cdot10^{-163}$	0	$1.47\cdot10^{-160}$	-	$4.63\cdot10^{-163}$	$1.51\cdot10^{-171}$	0
Q	$\bar{x}_1$	0.5346	0.0025	0.5346	0.5346	0.5354	0.5354	0.0019	0.5346	0.0019	0.5346	0.0019	0.0021	0.5346
	$\bar{x}_2$	0.5346	0.5358	0.5346	0.5346	0.0011	$6.688\cdot10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	C.I	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5333, -0.5333]	[0, 0]	[0, 0]	[0.5343, 0.5343]	[0.5347, 0.5347]	[-0.5348, -0.5348]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5348, -0.5348]	[0, 0]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$
	p-value	0	$4.54\cdot10^{-144}$	-	-	$1.12\cdot10^{-167}$	$9.83\cdot10^{-176}$	$6.82\cdot10^{-163}$	0	$1.83\cdot10^{-157}$	-	$3.95\cdot10^{-159}$	$7.26\cdot10^{-174}$	0
R	$\bar{x}_1$	$9.269\cdot10^{-4}$	$8.347\cdot10^{-4}$	0.0011	0.0011	0.5346	0.5351	$6.855\cdot10^{-4}$	$9.262\cdot10^{-4}$	$6.896\cdot10^{-4}$	0.0011	$6.855\cdot10^{-4}$	$7.669\cdot10^{-4}$	$9.282\cdot10^{-4}$
	$\bar{x}_2$	0.5356	0.5358	0.5354	0.5354	0.5346	0.0023	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	C.I	[-0.5346, -0.5346]	[-0.5350, -0.5350]	[-0.5343, -0.5343]	[-0.5343, -0.5343]	[0, 0]	[0.5328, 0.5328]	[-0.5360, -0.5360]	[-0.5347, -0.5346]	[-0.5360, -0.5360]	[-0.5343, -0.5343]	[-0.5360, -0.5360]	[-0.5353, -0.5353]	[-0.5346, -0.5346]
	p-value	$1.25\cdot10^{-171}$	$3.44\cdot10^{-169}$	$3.42\cdot10^{-165}$	$1.51\cdot10^{-165}$	-	$1.7\cdot10^{-131}$	$4.16\cdot10^{-163}$	$1.18\cdot10^{-175}$	$8.37\cdot10^{-161}$	$2.41\cdot10^{-170}$	$1.01\cdot10^{-164}$	$3.86\cdot10^{-167}$	$2.87\cdot10^{-176}$
S	$\bar{x}_1$	$5.740\cdot10^{-4}$	$5.204\cdot10^{-4}$	$6.702\cdot10^{-4}$	$6.712\cdot10^{-4}$	0.0023	0.5346	$4.409\cdot10^{-4}$	$5.761\cdot10^{-4}$	$4.390\cdot10^{-4}$	$6.701\cdot10^{-4}$	$4.406\cdot10^{-4}$	$4.832\cdot10^{-4}$	$5.758\cdot10^{-4}$
	$\bar{x}_2$	0.5356	0.5358	0.5354	0.5354	0.5351	0.5346	0.5367	0.5356	0.5367	0.5354	0.5367	0.5361	0.5356
	C.I	[-0.5350, -0.5350]	[-0.5353, -0.5353]	[-0.5347, -0.5347]	[-0.5347, -0.5347]	[-0.5328, -0.5327]	[0, 0]	[-0.5363, -0.5363]	[-0.5350, -0.5350]	[-0.5363, -0.5363]	[-0.5347, -0.5347]	[-0.5363, -0.5363]	[-0.5356, -0.5356]	[-0.5350, -0.5350]
	p-value	$1.28\cdot10^{-170}$	$1.9\cdot10^{-164}$	$9.67\cdot10^{-174}$	$1.77\cdot10^{-167}$	$3.24\cdot10^{-126}$	-	$6.03\cdot10^{-163}$	$5.37\cdot10^{-166}$	$3.02\cdot10^{-167}$	$7.59\cdot10^{-172}$	$1.44\cdot10^{-164}$	$1.79\cdot10^{-164}$	$1.31\cdot10^{-166}$
T	$\bar{x}_1$	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0034	0.0079	0.0019	0.0019	$6.857\cdot10^{-4}$	$4.413\cdot10^{-4}$	0.5348	0.0034	0.5348	0.0019	0.5348	0.5347	0.0034
	C.I	[0.5332, 0.5332]	[0.5286, 0.5287]	[0.5348, 0.5348]	[0.5348, 0.5348]	[0.5360, 0.5360]	[0.5363, 0.5363]	[0, 0]	[0.5332, 0.5332]	[0, 0]	[0.5348, 0.5348]	[0, 0]	$[1.2\cdot10^{-4}, 1.2\cdot10^{-4}]$	[0.5332, 0.5332]
	p-value	$1.27\cdot10^{-159}$	$2.12\cdot10^{-123}$	$1.79\cdot10^{-162}$	$1.02\cdot10^{-159}$	$2.19\cdot10^{-163}$	$1.46\cdot10^{-164}$	-	$3.63\cdot10^{-157}$	-	$3.42\cdot10^{-159}$	-	0	$3.11\cdot10^{-163}$

Table A13-8. Statistical t-test results for Comparation network with Capital English letters, P to T vs. N to Z. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		A	B	C	D	E	F	G	H	I	J	K	L	M
U	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0056	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.740\cdot10^{-4}$	0.5346	0.5346	$5.742\cdot10^{-4}$	0.5346	$3.542\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	$[-3.6\cdot10^{-5}, -3.6\cdot10^{-5}]$	[0.5350, 0.5350]	[0, 0]	$[3.5\cdot10^{-5}, 3.5\cdot10^{-5}]$	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5306, -0.5302]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$6.34\cdot10^{-172}$	-	0	$5.01\cdot10^{-167}$	-	$1.02\cdot10^{-167}$	-	-	$4.87\cdot10^{-156}$	$1.01\cdot10^{-104}$	$1.7\cdot10^{-149}$	-
V	$\bar{x}_1$	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0079	$4.396\cdot10^{-4}$	0.0034	0.0019	$4.416\cdot10^{-4}$	0.0034	$2.839\cdot10^{-4}$	0.0034	0.0034	0.5348	0.5347	0.5350	0.0034
	C.I	[0.5286, 0.5287]	[0.5363, 0.5363]	[0.5332, 0.5332]	[0.5348, 0.5348]	[0.5363, 0.5363]	[0.5332, 0.5332]	[0.5364, 0.5364]	[0.5332, 0.5332]	[0.5332, 0.5333]	[0, 0]	$[1.2\cdot10^{-4}, 1.2\cdot10^{-4}]$	$[-1.8\cdot10^{-4}, -1.8\cdot10^{-4}]$	[0.5332, 0.5332]
	p-value	$4.43\cdot10^{-120}$	$4.91\cdot10^{-165}$	$1.54\cdot10^{-160}$	$1.18\cdot10^{-163}$	$3.68\cdot10^{-162}$	$1.86\cdot10^{-156}$	$8.8\cdot10^{-170}$	$3.82\cdot10^{-156}$	$4.87\cdot10^{-162}$	-	0	0	$2.8\cdot10^{-159}$
W	$\bar{x}_1$	0.0025	0.5354	0.5346	0.5346	0.5354	0.5346	0.5354	0.5346	0.5346	0.0019	0.0021	0.0017	0.5346
	$\bar{x}_2$	0.5358	$6.697\cdot10^{-4}$	0.5346	0.5346	$6.703\cdot10^{-4}$	0.5346	$4\cdot10^{-4}$	0.5346	0.5346	0.5367	0.5360	0.5374	0.5346
	C.I	[-0.5333, -0.5333]	[0.5347, 0.5347]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[0, 0]	[0.5347, 0.5347]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[0.5350, 0.5350]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5348, -0.5348]	[-0.5339, -0.5339]	[-0.5357, -0.5357]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$
	p-value	$2.59\cdot10^{-140}$	$1.03\cdot10^{-171}$	0	-	$3.16\cdot10^{-172}$	0	$2.99\cdot10^{-170}$	0	0	$8.38\cdot10^{-162}$	$1.91\cdot10^{-172}$	$3.59\cdot10^{-155}$	0
X	$\bar{x}_1$	0.5366	0.5367	0.5366	0.5367	0.5367	0.5366	0.5367	0.5366	0.5366	0.5348	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0079	$4.412\cdot10^{-4}$	0.0034	0.0019	$4.388\cdot10^{-4}$	0.0034	$2.844\cdot10^{-4}$	0.0034	0.0034	0.5348	0.5347	0.5350	0.0034
	C.I	[0.5286, 0.5288]	[0.5363, 0.5363]	[0.5332, 0.5332]	[0.5348, 0.5348]	[0.5363, 0.5363]	[0.5332, 0.5333]	[0.5364, 0.5364]	[0.5332, 0.5332]	[0.5332, 0.5332]	[0, 0]	$[1.2\cdot10^{-4}, 1.2\cdot10^{-4}]$	$[-1.8\cdot10^{-4}, -1.8\cdot10^{-4}]$	[0.5332, 0.5332]
	p-value	$3.71\cdot10^{-120}$	$8.33\cdot10^{-165}$	$4.49\cdot10^{-159}$	$2.52\cdot10^{-163}$	$4.56\cdot10^{-168}$	$1.31\cdot10^{-161}$	$1.25\cdot10^{-165}$	$3.21\cdot10^{-155}$	$1.56\cdot10^{-161}$	-	0	0	$2.34\cdot10^{-156}$
Y	$\bar{x}_1$	0.5347	0.5361	0.5360	0.5360	0.5361	0.5360	0.5361	0.5360	0.5360	0.5347	0.5347	0.0213	0.5360
	$\bar{x}_2$	0.5347	$4.823\cdot10^{-4}$	0.0054	0.0021	$4.812\cdot10^{-4}$	0.0055	$3.098\cdot10^{-4}$	0.0057	0.0055	0.5348	0.5347	0.5373	0.0056
	C.I	$[4.6\cdot10^{-5}, 4.6\cdot10^{-5}]$	[0.5356, 0.5356]	[0.5305, 0.5307]	[0.5339, 0.5339]	[0.5356, 0.5356]	[0.5304, 0.5306]	[0.5358, 0.5358]	[0.5302, 0.5304]	[0.5304, 0.5306]	$[-1.2\cdot10^{-4}, -1.2\cdot10^{-4}]$	[0, 0]	[-0.5165, -0.5156]	[0.5303, 0.5305]
	p-value	0	$1.51\cdot10^{-166}$	$2.06\cdot10^{-112}$	$1.56\cdot10^{-174}$	$6.09\cdot10^{-166}$	$2.21\cdot10^{-108}$	$1.59\cdot10^{-165}$	$1.32\cdot10^{-107}$	$3.43\cdot10^{-110}$	0	-	$9.59\cdot10^{-90}$	$2.07\cdot10^{-108}$

Table A13-9. Statistical t-test results for Comparation network with Capital English letters, U to Y vs. A to M. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

Input-1 patterns		Input-2 patterns												
		N	O	P	Q	R	S	T	U	V	W	X	Y	Z
U	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0056	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.278\cdot10^{-4}$	$5.736\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	$[-3.6\cdot10^{-5}, -3.6\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5332, -0.5332]	$[3\cdot10^{-5}, 3\cdot10^{-5}]$	[-0.5332, -0.5332]	[-0.5306, -0.5303]	[0, 0]
	p-value	-	0	0	0	$6.64\cdot10^{-175}$	$3.96\cdot10^{-169}$	$8.88\cdot10^{-158}$	-	$1.45\cdot10^{-157}$	0	$1.9\cdot10^{-156}$	$3\cdot10^{-108}$	-
V	$\bar{x}_1$	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0034	0.0079	0.0019	0.0019	$6.858\cdot10^{-4}$	$4.412\cdot10^{-4}$	0.5348	0.0034	0.5348	0.0019	0.5348	0.5347	0.0034
	C.I	[0.5332, 0.5332]	[0.5286, 0.5287]	[0.5348, 0.5348]	[0.5348, 0.5348]	[0.5360, 0.5360]	[0.5363, 0.5363]	[0, 0]	[0.5332, 0.5332]	[0, 0]	[0.5348, 0.5348]	[0, 0]	$[1.2\cdot10^{-4}, 1.2\cdot10^{-4}]$	[0.5332, 0.5333]
	p-value	$1.42\cdot10^{-157}$	$5.45\cdot10^{-119}$	$7.01\cdot10^{-161}$	$1.07\cdot10^{-159}$	$3.59\cdot10^{-164}$	$1.1\cdot10^{-165}$	-	$5.33\cdot10^{-158}$	-	$4.78\cdot10^{-160}$	-	0	$5.89\cdot10^{-164}$
W	$\bar{x}_1$	0.5346	0.0025	0.5346	0.5346	0.5354	0.5354	0.0019	0.5346	0.0019	0.5346	0.0019	0.0021	0.5346
	$\bar{x}_2$	0.5346	0.5358	0.5346	0.5346	0.0011	$6.708\cdot10^{-4}$	0.5367	0.5346	0.5367	0.5346	0.5367	0.5360	0.5346
	C.I	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5333, -0.5333]	[0, 0]	[0, 0]	[0.5343, 0.5343]	[0.5347, 0.5347]	[-0.5348, -0.5348]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$	[-0.5348, -0.5348]	[0, 0]	[-0.5348, -0.5348]	[-0.5339, -0.5339]	$[-3\cdot10^{-5}, -3\cdot10^{-5}]$
	p-value	0	$2.69\cdot10^{-137}$	-	-	$2.9\cdot10^{-168}$	$1.47\cdot10^{-170}$	$1.58\cdot10^{-159}$	0	$2.05\cdot10^{-167}$	-	$1.76\cdot10^{-159}$	$4.65\cdot10^{-171}$	0
X	$\bar{x}_1$	0.5366	0.5366	0.5367	0.5367	0.5367	0.5367	0.5348	0.5366	0.5348	0.5367	0.5348	0.5348	0.5366
	$\bar{x}_2$	0.0034	0.0079	0.0019	0.0019	$6.897\cdot10^{-4}$	$4.379\cdot10^{-4}$	0.5348	0.0034	0.5348	0.0019	0.5348	0.5347	0.0034
	C.I	[0.5332, 0.5332]	[0.5286, 0.5287]	[0.5348, 0.5348]	[0.5348, 0.5348]	[0.5360, 0.5360]	[0.5363, 0.5363]	[0, 0]	[0.5332, 0.5332]	[0, 0]	[0.5348, 0.5348]	[0, 0]	$[1.2\cdot10^{-4}, 1.2\cdot10^{-4}]$	[0.5332, 0.5332]
	p-value	$1.37\cdot10^{-157}$	$3.48\cdot10^{-120}$	$4.77\cdot10^{-162}$	$9.03\cdot10^{-160}$	$4.93\cdot10^{-162}$	$1.9\cdot10^{-169}$	-	$2.22\cdot10^{-154}$	-	$5.82\cdot10^{-158}$	-	0	$4.62\cdot10^{-159}$
Y	$\bar{x}_1$	0.5360	0.5347	0.5360	0.5360	0.5361	0.5361	0.5347	0.5360	0.5347	0.5360	0.5347	0.5347	0.5360
	$\bar{x}_2$	0.0057	0.5347	0.0021	0.0021	$7.682\cdot10^{-4}$	$4.809\cdot10^{-4}$	0.5348	0.0056	0.5348	0.0021	0.5348	0.5347	0.0054
	C.I	[0.5302, 0.5305]	$[4.6\cdot10^{-5}, 4.6\cdot10^{-5}]$	[0.5339, 0.5339]	[0.5339, 0.5339]	[0.5353, 0.5353]	[0.5356, 0.5356]	$[-1.2\cdot10^{-4}, -1.2\cdot10^{-4}]$	[0.5303, 0.5305]	$[-1.2\cdot10^{-4}, -1.2\cdot10^{-4}]$	[0.5339, 0.5339]	$[-1.2\cdot10^{-4}, -1.2\cdot10^{-4}]$	[0, 0]	[0.5305, 0.5307]
	p-value	$9.2\cdot10^{-104}$	0	$1.49\cdot10^{-173}$	$3.22\cdot10^{-171}$	$2.84\cdot10^{-164}$	$1.27\cdot10^{-169}$	0	$9.29\cdot10^{-109}$	0	$4.38\cdot10^{-172}$	0	-	$6.22\cdot10^{-110}$

Table A13-10. Statistical t-test results for Comparation network with Capital English letters, U to Y vs. N to Z. Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

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Input-1 patterns		Input-2 patterns A	B	C	D	E	F	G	H	I	J	K	L	M
Z	$\bar{x}_1$	0.5346	0.5356	0.5346	0.5346	0.5356	0.5346	0.5356	0.5346	0.5346	0.0034	0.0055	0.0031	0.5346
	$\bar{x}_2$	0.5347	$5.753\cdot10^{-4}$	0.5346	0.5346	$5.759\cdot10^{-4}$	0.5346	$3.551\cdot10^{-4}$	0.5346	0.5346	0.5366	0.5360	0.5374	0.5346
	C.I	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[$3.5\cdot10^{-5}$, $3.5\cdot10^{-5}$]	[0.5350, 0.5350]	[0, 0]	[0.5352, 0.5352]	[0, 0]	[0, 0]	[-0.5332, -0.5332]	[-0.5307, -0.5304]	[-0.5343, -0.5343]	[0, 0]
	p-value	0	$9.4\cdot10^{-172}$	-	0	$3.51\cdot10^{-168}$	-	$2.53\cdot10^{-166}$	-	-	$6.15\cdot10^{-162}$	$2.83\cdot10^{-107}$	$1.8\cdot10^{-154}$	-

Input-1 patterns		Input-2 patterns N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Z	$\bar{x}_1$	0.5346	0.5346	0.5346	0.5346	0.5356	0.5356	0.0034	0.5346	0.0034	0.5346	0.0034	0.0054	0.5346
	$\bar{x}_2$	0.5346	0.5347	0.5346	0.5346	$9.277\cdot10^{-4}$	$5.749\cdot10^{-4}$	0.5366	0.5346	0.5366	0.5346	0.5366	0.5360	0.5346
	C.I	[0, 0]	[$-3.6\cdot10^{-5}$, $-3.6\cdot10^{-5}$]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[0.5346, 0.5346]	[0.5350, 0.5350]	[-0.5332, -0.5332]	[0, 0]	[-0.5333, -0.5332]	[$3\cdot10^{-5}$, $3\cdot10^{-5}$]	[-0.5332, -0.5332]	[-0.5307, -0.5305]	[0, 0]
	p-value	-	0	0	0	$9.59\cdot10^{-176}$	$2.41\cdot10^{-169}$	$6.08\cdot10^{-163}$	-	$2.53\cdot10^{-162}$	0	$1.37\cdot10^{-162}$	$2.49\cdot10^{-114}$	-

Table A13-11. Statistical t-test results for Comparation network with Capital English letters, Z vs. A to M (top) and Z vs. N to Z (bottom). Each box has four entries: mean of the average (median) activity of all nodes in respective M-field at final iteration (3000) over n-samples (n=35), 95% confidence interval (CI) and p-value. Input-1 & 2 patterns correspond to M(x5)-field & M(x6)-field respectively. Note that p-value is not computed for cases with CI = [0, 0]. The pattern-set is the same as in tables A1 and A2 with retinal-map size 5x5.

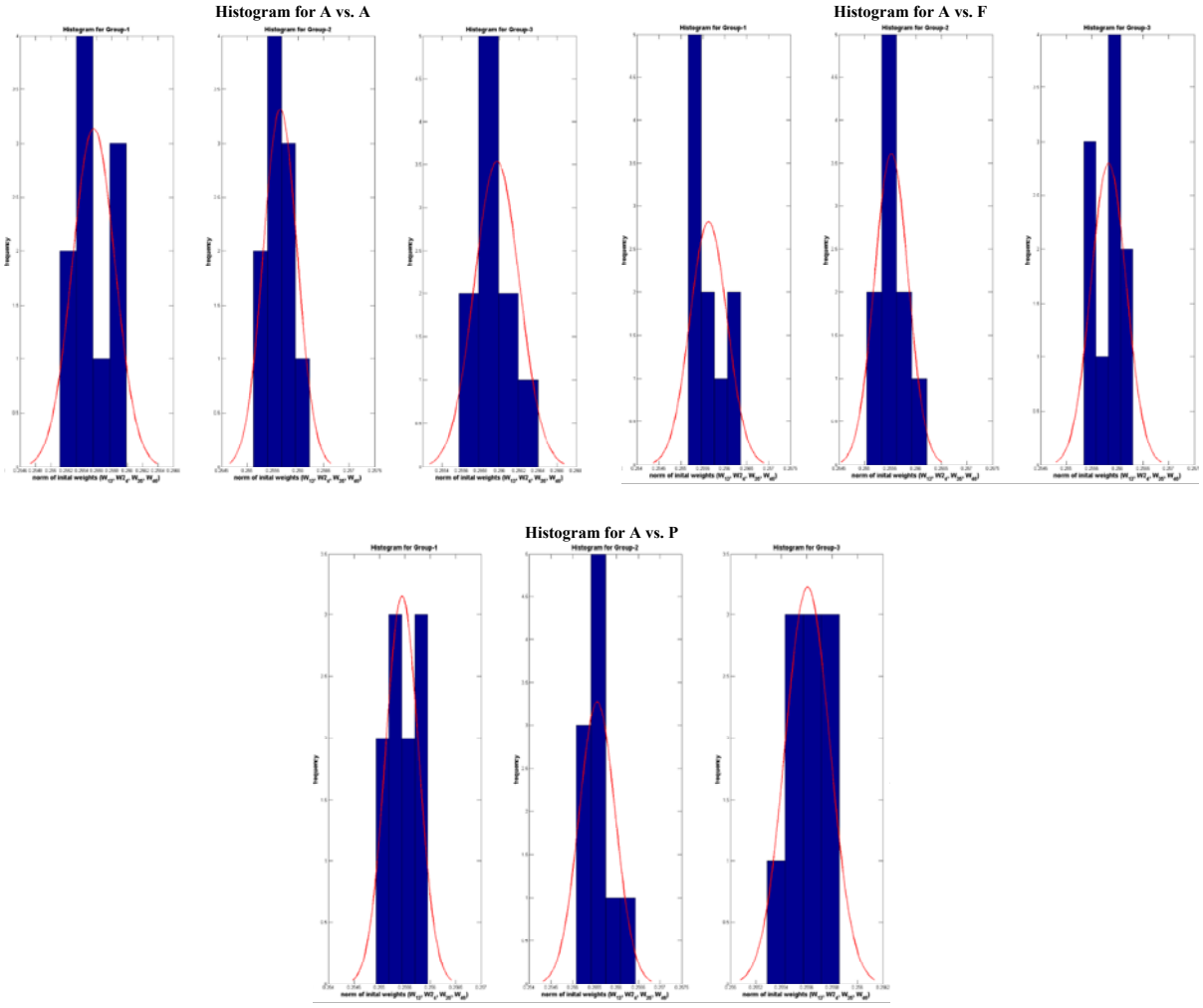
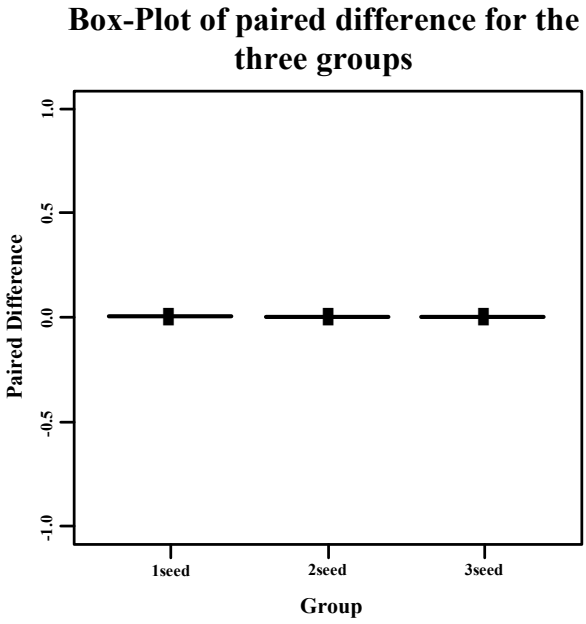


Figure A3-1. Histogram of norm of initial weights for ANOVA f-test with total sample size, N = 30. For the ANOVA f-test we consider, k = 3 groups. The groups are defined with respect to the seed (= 1, 2, 3) of the random number generator. Each group has sample size, $n_k = 10$. Thus, $N = n_1 + n_2 + n_3 = 30$.

For a given pattern-combo, there are three histograms. Each histogram demonstrates independent random samples (within respective group).

The superimposed normal (red) curve demonstrates randomly independent sample. Frequencies are for the infinity-norm of the vector composed of infinity-norm of the initial W_{13}, W_{24}, W_{35} and W_{46} matrices.

A vs. A



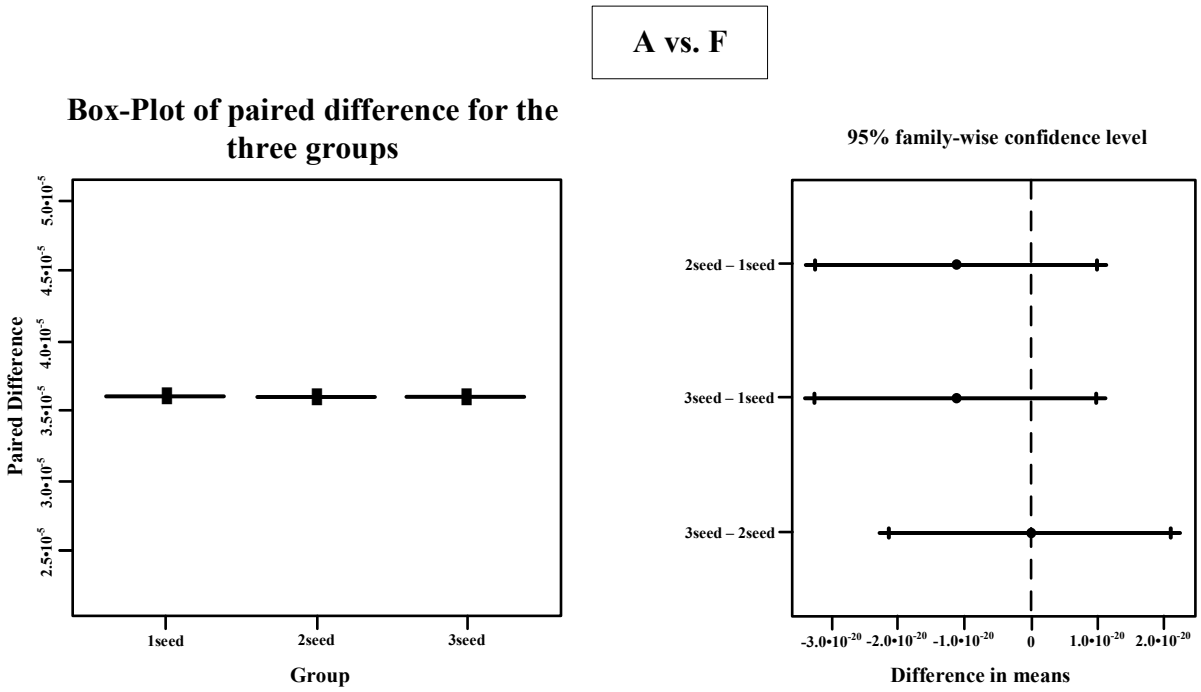
ANOVA Table

Source	df	Sum Sq.	Mean Sq.	F	P
Groups	2	0	0	-	-
Error	27	0	0		
Total	29	0			

Figure A3-2. Comparison of paired-difference (pattern-combo, A vs. A) for three (k) groups. The patterns have retinal-map size 5x5. For the ANOVA f-test the groups are defined with respect to the seed (= 1, 2, 3) of the random number generator. Each group has sample size, $n_k = 10$. Thus, $N = n_1 + n_2 + n_3 = 30$.

Paired-difference is the difference of the means of M5 and M6-field activities at final iteration (2000) over n_k samples for respective k-group. The ▉ within the box indicates sample mean.

Notice that the sample means are all = 0. Thus sum of squares for the groups = 0 and hence mean square for groups also = 0.



ANOVA Table

Source	df	Sum Sq.	Mean Sq.	F	P
Groups	2	0	0	-	-
Error	27	0	0		
Total	29	0			

Figure A3-3. Comparison of paired-difference (pattern-combo, A vs. F) for three (k) groups. The patterns have retinal-map size 5x5. For the ANOVA f-test the groups are defined with respect to the seed (= 1, 2, 3) of the random number generator. Each group has sample size, $n_k = 10$. Thus, $N = n_1 + n_2 + n_3 = 30$.

Paired-difference is the difference of the means of M5 and M6-field activities at final iteration (2000) over n_k samples for respective k-group. The ▉ within the box indicates sample mean.

Notice that the sample means are all equal to $\approx 3.6 \bullet 10^{-5}$. Thus sum of squares for the groups = 0 and hence mean square for groups also = 0. Since the sample means are $\neq 0$, confidence intervals can be computed.

The 95% simultaneous confidence intervals (Tukey's procedures) indicate that all the three intervals cover 0.