p-valores

Instância	K-trimmed		K-centrum		Hurwicz	
	correlated	anticorrelated	correlated	anticorrelated	correlated	anticorrelated
30.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.6470
30.2	0.0000	0.0113	0.0000	0.0000	0.0000	0.0000
30.3	0.5000	0.0000	0.0822	0.0000	0.5000	0.0025
35.1	0.0000	0.0000	0.0000	0.0000	0.0045	0.0000
35.2	0.0000	0.0000	0.0000	0.0004	0.0000	0.0000
35.3	0.0000	0.0000	0.5000	0.7861	0.0000	0.0000
40.1	0.5000	0.0000	0.0000	0.0000	0.0000	0.0003
40.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005
40.3	0.0000	0.0000	0.5000	0.2479	0.0000	0.0000
45.1	0.0000	0.0000	0.0000	0.2389	0.0028	0.0000
45.2	0.0000	0.0000	0.0000	0.8943	0.0000	0.0000
45.3	0.0000	0.0000	0.0003	0.1587	0.0000	0.9961
50.1	0.0000	0.0000	0.0000	0.0010	0.0000	0.0282
50.2	0.5000	0.0000	0.0000	0.0000	0.0000	0.1895
50.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.7855
100.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.1452
100.2	0.5000	0.0000	0.0000	0.0002	0.0000	0.0172
100.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.7962
200.1	0.5000	0.0000	0.0140	0.0000	0.0020	0.0152
200.2	0.0000	0.0000	0.0111	0.0000	0.0000	0.0066
200.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
300.1	0.0000	0.9221	0.0000	0.0000	0.0000	0.0585
300.2	0.0000	0.0000	0.0000	0.0000	0.0282	0.0179
300.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
400.1	0.5000	0.0000	0.0028	0.0000	0.1538	0.1275
400.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0097
400.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.2081
500.1	0.5000	0.1720	0.0000	0.0000	0.0812	0.1976
500.2	0.5000	0.0000	0.0000	0.0000	0.0034	0.0036
500.3	0.0000	0.0000	0.0000	0.0001	0.0000	0.0034
600.1	0.5000	0.0000	0.0000	0.0007	0.0002	0.0103
600.2	0.0001	0.0000	0.0000	0.0000	0.0000	0.8145
600.3	0.0053	0.0000	0.0000	0.0000	0.0000	0.0459
700.1	0.0000	0.4296	0.0000	0.0000	0.0000	0.0085
700.2	0.1587	0.0000	0.0000	0.0000	0.0000	0.0207
700.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
800.1	0.0000	0.0000	0.0002	0.0000	0.0000	0.0007
800.2	0.0000	0.0000	0.0000	0.0000	0.0007	0.0405
800.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
900.1	0.0001	0.0000	0.0000	0.0001	0.0008	0.0074
900.2	0.5000	0.0000	0.0000	0.0000	0.0000	0.1170
900.3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
1000.1	0.0000	0.0000	0.0000	0.0000	0.0621	0.0008
1000.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
1000.3	0.0001	0.0000	0.0000	0.0000	0.0000	0.0001

Teste de mann-whitney one-tailed, com nível de significância 95%.

Hipótese nula: as amostras obtidas pelos algoritmos advêm da mesma distribuição (sem diferença significativa)

Hipótese alternativa: as amostras são diferentes e o transgenético obtém as melhores soluções

Se o p-velor for menor que 0.05, a hipótese nula deve ser rejeitada em favor da hipótese alternativa (transgenético melhor)

Se o p-valor for entre 0.05 e 0.95, não se pode concluir quem foi melhor.

Se o p-valor for maior que 0.95, indica que o memético foi melhor

Aqui o transgenético perdeu em 1 instância
Ganhou em 232 instâncias

E nao apresentou diferença significativa (em relação ao memético) em 37

Tempo em segundos

Instância	K-trimmed				K-centrum				Hurwicz			
	correlated		anticorrelated		correlated		anticorrelated		correlated		anticorrelated	
	M-SA	T-SA	M-SA	T-SA	M-SA	T-SA	M-SA	T-SA	M-SA	T-SA	M-SA	T-SA
30.1	0.9770	0.4907	0.9753	0.4863	0.9867	0.5107	0.9860	0.4933	0.9907	0.4913	0.9940	0.4960
30.2	0.9570	0.4853	0.9713	0.4723	0.9863	0.4813	0.9953	0.5017	0.9840	0.4870	0.9737	0.4777
30.3	0.9697	0.4650	0.9583	0.4707	0.9750	0.4663	0.9857	0.4770	0.9760	0.4710	0.9903	0.4820
35.1	1.0810	0.5287	1.0833	0.5207	1.0780	0.5250	1.0967	0.5313	1.1010	0.5430	1.0887	0.5307
35.2	1.0723	0.5143	1.0660	0.5227	1.1027	0.5277	1.1023	0.5473	1.0983	0.5313	1.0773	0.5260
35.3	1.0730	0.5197	1.0873	0.5213	1.0720	0.5270	1.1323	0.5787	1.0717	0.5280	1.1037	0.5317
40.1	1.1750	0.5870	1.1673	0.5877	1.1863	0.6133	1.1933	0.6033	1.1767	0.6100	1.1640	0.6080
40.2	1.1363	0.5797	1.1217	0.5770	1.1707	0.6130	1.1840	0.6017	1.1570	0.5950	1.1543	0.5843
40.3	1.1517	0.5807	1.1543	0.5773	1.1403	0.5673	1.2277	0.6557	1.1477	0.6043	1.1947	0.6033
45.1	1.3210	0.6733	1.3317	0.6777	1.3430	0.7023	1.3673	0.7067	1.3433	0.6863	1.3227	0.6743
45.2	1.3033	0.6620	1.3037	0.6533	1.3360	0.6567	1.3653	0.6853	1.3417	0.6837	1.3380	0.6797
45.3	1.3147	0.6497	1.3040	0.6527	1.3280	0.6453	1.3103	0.6620	1.3080	0.6480	1.3620	0.7120
50.1	1.4067	0.7380	1.4067	0.7257	1.4187	0.7637	1.4393	0.7693	1.4110	0.7317	1.4313	0.7380
50.2	1.3983	0.7333	1.3877	0.7167	1.4020	0.7337	1.3890	0.7313	1.3873	0.7200	1.4267	0.7797
50.3	1.3980	0.7123	1.3910	0.7220	1.4090	0.7500	1.4007	0.7383	1.4040	0.7323	1.4383	0.7650
100.1	3.2103	1.7533	3.1940	1.7313	3.2263	1.7843	3.1933	1.8290	3.2340	1.8377	3.2163	1.7803
100.2	3.2007	1.6477	3.2337	1.7273	3.2077	1.7590	3.2447	1.9097	3.2093	1.7827	3.2127	1.8777
100.3	3.2100	1.6757	3.2237	1.6810	3.2167	1.6707	3.2237	1.7177	3.2193	1.7120	3.2350	1.9013
200.1	7.1343	4.2547	7.0233	4.2913	7.0270	4.3367	7.0573	4.5117	7.0770	4.4927	7.1030	4.7120
200.2	7.0757	4.3060	6.9930	4.3193	6.9880	4.5090	7.0990	4.4250	6.9927	4.3027	7.0173	4.4883
200.3	7.0587	4.3437	7.1177	4.3320	7.1707	4.3020	7.1050	4.5260	7.1473	4.3133	7.0710	4.8243
300.1	11.3757	7.8880	11.1407	7.8453	11.4723	7.8893	11.4353	7.9720	11.3120	8.0433	11.2683	7.9340
300.2	11.2967	7.9683	11.2813	8.0533	11.3300	7.9670	11.2270	7.9887	11.1893	8.0717	11.3140	8.2840
300.3	11.2707	7.8620	11.4030	8.1043	11.4017	7.7127	11.3817	8.0040	11.3120	7.8727	11.4703	7.9247
400.1	15.3253	11.8277	14.9793	12.2000	15.0557	12.1800	15.2510	12.4060	14.9033	12.3393	14.9427	12.7033
400.2	14.8810	11.9997	15.1950	12.3117	15.3013	12.0237	15.3870	12.1207	15.0510	12.3873	14.9463	12.6363
400.3	15.2513	12.2200	15.1460	12.4787	15.3570	12.3617	15.3940	12.2443	15.2190	12.3647	15.1200	13.0240
500.1	19.8193	17.1963	19.1893	17.7007	19.7367	17.3727	19.3683	17.7223	19.1580	17.9453	19.0607	18.3453
500.2	19.8510	17.1057	19.4317	17.6150	19.6123	17.4690	19.4373	17.8607	18.8667	18.0113	18.7937	18.7497
500.3	19.7993	16.9177	19.7160	17.3240	19.3793	17.2847	19.1210	19.0313	19.4413	17.5527	19.0780	19.0520
600.1	24.4813	23.1870	23.7467	23.6407	24.2463	23.8377	23.1193	24.6013	23.1773	23.7650	23.5183	23.8253
600.2	23.6120	23.3933	24.1983	23.8970	24.5250	23.6677	23.3220	24.2240	23.9360	24.0743	23.1913	24.4737
600.3	24.4957	22.7787	24.3897	23.3133	24.4717	23.6413	24.1620	23.8717	23.7670	23.6453	23.6297	25.1453
700.1	28.5227	30.4277	27.8397	31.1857	29.3217	30.5467	27.5723	31.7450	27.2797	31.1163	28.2373	31.3307
700.2	29.4977	29.9253	29.3540	30.7407	27.7730	31.1013	29.4153	30.8950	27.8393	31.0060	27.7813	31.6263
700.3	29.5087	30.2647	29.4843	30.5367	29.5750	30.5827	29.4843	31.0060	28.9660	30.5433	28.8707	30.6767
800.1	36.1937	39.1880	35.0880	39.4027	34.6723	39.2913	35.8740	39.5243	34.7317	39.5453	33.9873	40.1077
800.2	36.3393	38.6127	33.5083	39.8040	36.3420	39.1517	35.3070	39.2933	34.1650	39.9633	34.5010	40.5540
800.3	36.3620	39.0093	35.5947	38.7993	36.3903	38.9363	35.8873	39.7253	35.7937	39.7093	35.3597	39.7093
900.1	41.8490	47.0213	41.5257	48.3327	39.0680	48.2570	38.7657	48.7653	39.0233	47.6847	39.6090	49.5350
900.2	41.9110	46.7703	41.0210	47.9140	42.1137	47.8523	39.7103	49.2053	40.7347	47.7487	38.9953	49.1460
900.3	41.9400	47.2227	41.7863	47.4170	40.6400	47.7773	41.9843	48.2260	40.9220	48.8253	40.6330	48.2653
1000.1	46.1513	57.2200	43.2717	58.0470	47.5683	57.2063	43.1937	59.1443	44.6927	58.1133	44.2130	58.4193
1000.2	46.9103	57.6360	45.7567	57.4610	47.6157	57.3593	43.7637	58.5380	44.9177	57.6890	44.9007	59.1843
1000.3	47.4383	56.4777	45.6210	57.8913	45.3800	57.0933	46.8353	58.6757	45.6707	58.3293	45.0177	61.0083