

MoG model with $d = 100$, $q = 10$, and $n = m = 10^4$						
Statistic	μ -deformation			Σ_{ii} -deformation		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)
t_{SW}	$0.09504^{+0.024}_{-0.028}$	$0.12338^{+0.023}_{-0.024}$	648	$0.03044^{+0.0066}_{-0.0084}$	$0.03963^{+0.0061}_{-0.0067}$	711
$t_{\overline{KS}}$	$0.00787^{+0.0031}_{-0.0029}$	$0.01207^{+0.0034}_{-0.0032}$	1244	$0.00217^{+0.0011}_{-0.00099}$	$0.00375^{+0.0011}_{-0.0012}$	1389
t_{SKS}	$0.07672^{+0.018}_{-0.021}$	$0.10153^{+0.016}_{-0.018}$	688	$0.02687^{+0.0041}_{-0.0056}$	$0.0345^{+0.0036}_{-0.004}$	736
t_{FGD}	$0.13134^{+0.032}_{-0.034}$	$0.16599^{+0.028}_{-0.028}$	2715	$0.04142^{+0.0081}_{-0.01}$	$0.05232^{+0.0067}_{-0.0074}$	2955
t_{MMD}	$0.10962^{+0.028}_{-0.035}$	$0.14183^{+0.023}_{-0.026}$	1350	$0.02117^{+0.007}_{-0.0078}$	$0.02757^{+0.0062}_{-0.0064}$	1536
t_{NPLM}	$0.01022^{+0.003}_{-0.0039}$	$0.01227^{+0.0027}_{-0.0031}$	3690	$0.00333^{+0.00099}_{-0.0013}$	$0.00399^{+0.00089}_{-0.001}$	4008
t_{LLR}	$9e - 05^{+6e-05}_{-6e-05}$	$0.00012^{+6e-05}_{-6e-05}$	3225	$2e - 05^{+1e-05}_{-1e-05}$	$2e - 05^{+2e-05}_{-1e-05}$	3499
Statistic	$\Sigma_{i \neq j}$ -deformation			pow $_+$ -deformation		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)
t_{SW}	$0.05622^{+0.011}_{-0.015}$	$0.07365^{+0.0088}_{-0.011}$	3594	$0.01206^{+0.0028}_{-0.0033}$	$0.01579^{+0.0023}_{-0.0028}$	730
$t_{\overline{KS}}$	$1.00157^{+0.00038}_{-0.00012}$	$1.00402^{+0.00037}_{-0.0018}$	10395	$0.00084^{+0.00043}_{-0.00041}$	$0.00144^{+0.00041}_{-0.00045}$	1467
t_{SKS}	$0.0607^{+0.013}_{-0.015}$	$0.07996^{+0.011}_{-0.013}$	4297	$0.01088^{+0.0016}_{-0.0021}$	$0.0139^{+0.0013}_{-0.0015}$	773
t_{FGD}	$0.00958^{+0.0021}_{-0.0026}$	$0.01249^{+0.0018}_{-0.0019}$	7784	$0.01638^{+0.0032}_{-0.0039}$	$0.02069^{+0.0027}_{-0.003}$	2488
t_{MMD}	$0.03968^{+0.01}_{-0.012}$	$0.05143^{+0.0089}_{-0.0095}$	5795	$0.00761^{+0.0026}_{-0.0028}$	$0.00988^{+0.0023}_{-0.0023}$	1238
t_{NPLM}	$0.00559^{+0.0022}_{-0.0025}$	$0.00712^{+0.002}_{-0.0021}$	9175	$0.00126^{+0.00038}_{-0.00049}$	$0.00152^{+0.00034}_{-0.0004}$	3952
t_{LLR}	-	-	-	$1e - 05^{+0}_{-1e-05}$	$1e - 05^{+0}_{-1e-05}$	3842
Statistic	pow $_-$ -deformation			\mathcal{N} -deformation		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)
t_{SW}	$0.01253^{+5}_{-0.0032}$	$0.0164^{+5}_{-0.0026}$	653	$0.32495^{+0.033}_{-0.046}$	$0.37663^{+0.025}_{-0.032}$	617
$t_{\overline{KS}}$	$0.00086^{+0.00044}_{-0.00043}$	$0.00147^{+0.00042}_{-0.00047}$	1542	$0.02563^{+0.0081}_{-0.0097}$	$0.03668^{+0.0078}_{-0.008}$	652
t_{SKS}	$0.01077^{+0.0016}_{-0.0021}$	$0.01376^{+0.0013}_{-0.0015}$	786	$0.27956^{+0.034}_{-0.043}$	$0.32856^{+0.027}_{-0.033}$	657
t_{FGD}	$0.01685^{+0.0032}_{-0.0038}$	$0.02139^{+0.0026}_{-0.0032}$	3221	$0.28803^{+0.027}_{-0.038}$	$0.32529^{+0.021}_{-0.025}$	2636
t_{MMD}	$0.00834^{+0.0023}_{-0.0025}$	$0.01083^{+0.002}_{-0.0021}$	1257	$1.17867^{+0.13}_{-0.19}$	$1.33971^{+0.09}_{-0.12}$	731
t_{NPLM}	$0.00132^{+0.00037}_{-0.00048}$	$0.00158^{+0.00033}_{-0.00038}$	3821	$0.21286^{+0.054}_{-0.073}$	$0.25257^{+0.053}_{-0.056}$	2901
t_{LLR}	$1e - 05^{+0}_{-1e-05}$	$1e - 05^{+0}_{-1e-05}$	4903	-	-	-
Statistic	\mathcal{U} -deformation			Timing		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	t (s)	t^{null} (s)		
t_{SW}	$0.56347^{+0.054}_{-0.083}$	$0.65308^{+0.044}_{-0.056}$	588	285		
$t_{\overline{KS}}$	$0.03885^{+0.012}_{-0.015}$	$0.0555^{+0.011}_{-0.012}$	644	511		
t_{SKS}	$0.48383^{+0.061}_{-0.074}$	$0.56865^{+0.048}_{-0.057}$	631	456		
t_{FGD}	$0.49924^{+0.046}_{-0.066}$	$0.56381^{+0.036}_{-0.047}$	2515	3225		
t_{MMD}	$2.02548^{+0.23}_{-0.32}$	$2.31727^{+0.16}_{-0.2}$	1113	665		
t_{NPLM}	$0.37095^{+0.096}_{-0.13}$	$0.43272^{+0.082}_{-0.094}$	2769	5141		
t_{LLR}	-	-	-	-		