MoG model with $d = 20$, $q = 5$, and $n = m = 10^5$

Statistic	μ-deformation			Σ_{ii}-deformation		
	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)
t_{SW}	$0.03313^{+0.013}_{-0.014}$	$0.04474^{+0.012}_{-0.013}$	**2949**	$0.01198^{+0.0033}_{-0.0043}$	$0.01611^{+0.0031}_{-0.0034}$	**3129**
$t_{\overline{\text{KS}}}$	$\mathbf{0.00336^{+0.00093}_{-0.0012}}$	$\mathbf{0.00457^{+0.0008}_{-0.00092}}$	3047	$\mathbf{0.00123^{+0.00035}_{-0.00047}}$	$\mathbf{0.00169^{+0.00029}_{-0.00036}}$	3163
t_{SKS}	$0.02413^{+0.0082}_{-0.0095}$	$0.03295^{+0.017}_{-0.0081}$	3089	$0.0094^{+0.002}_{-0.0029}$	$0.01256^{+0.0017}_{-0.002}$	3211
t_{FGD}	$0.03818^{+0.018}_{-0.016}$	$0.05241^{+0.017}_{-0.014}$	5730	$0.01349^{+0.004}_{-0.0047}$	$0.01827^{+0.0034}_{-0.0035}$	5971
t_{MMD}	$0.03221^{+0.012}_{-0.011}$	$0.04404^{+0.011}_{-0.0098}$	11685	$0.00667^{+0.0033}_{-0.0027}$	$0.00928^{+0.0031}_{-0.0025}$	12637
t_{NPLM}	$0.0043^{+0.0012}_{-0.0014}$	$0.00524^{+0.001}_{-0.0012}$	25454	$0.00103^{+0.00029}_{-0.00033}$	$0.00125^{+0.00026}_{-0.00027}$	42043
t_{LLR}	$0.00014^{+0.0001}_{-9e-05}$	$0.00021^{+0.0001}_{-9e-05}$	9362	$5e-05^{+4e-05}_{-3e-05}$	$7e-05^{+4e-05}_{-3e-05}$	7986

Statistic	$\Sigma_{i\neq j}$-deformation			pow_+-deformation		
	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)
t_{SW}	$0.01488^{+0.0037}_{-0.0054}$	$0.01998^{+0.0032}_{-0.0039}$	**3497**	$0.00416^{+0.0012}_{-0.0015}$	$0.00561^{+0.001}_{-0.0012}$	**3284**
$t_{\overline{\text{KS}}}$	$1.00159^{+0.00012}_{-0.0012}$	$1.00183^{+0.00024}_{-0.00055}$	3998	$\mathbf{0.00029^{+9e-05}_{-0.00012}}$	$\mathbf{0.00041^{+9e-05}_{-0.0001}}$	3555
t_{SKS}	$0.0157^{+0.0051}_{-0.0064}$	$0.02125^{+0.0048}_{-0.0052}$	3704	$0.00306^{+0.00062}_{-0.00089}$	$0.00405^{+0.00049}_{-0.0006}$	3412
t_{FGD}	$\mathbf{0.0038^{+0.00091}_{-0.0012}}$	$\mathbf{0.0051^{+0.00081}_{-0.0008}}$	8033	$0.00494^{+0.0013}_{-0.0016}$	$0.00667^{+0.0011}_{-0.0011}$	5958
t_{MMD}	$0.01272^{+0.005}_{-0.0044}$	$0.01711^{+0.0048}_{-0.004}$	13426	$0.00241^{+0.001}_{-0.00091}$	$0.00333^{+0.00094}_{-0.00082}$	13310
t_{NPLM}	$0.001^{+0.0002}_{-0.00037}$	$0.0012^{+0.0002}_{-0.0003}$	32501	$0.00039^{+0.0001}_{-0.00013}$	$0.00047^{+9e-05}_{-0.0001}$	40489
t_{LLR}	-	-	-	$1e-05^{+1e-05}_{-1e-05}$	$2e-05^{+0}_{-1e-05}$	8742

Statistic	pow_--deformation			$\mathcal{N}$-deformation		
	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)
t_{SW}	$0.00419^{+0.0012}_{-0.0015}$	$0.00567^{+0.0011}_{-0.0012}$	**3291**	$0.16001^{+0.02}_{-0.031}$	$0.18547^{+0.016}_{-0.019}$	**2607**
$t_{\overline{\text{KS}}}$	$\mathbf{0.00029^{+0.0001}_{-0.00012}}$	$\mathbf{0.00041^{+0.0001}_{-0.0001}}$	3549	$\mathbf{0.00593^{+0.0015}_{-0.0018}}$	$\mathbf{0.00757^{+0.0014}_{-0.0015}}$	3131
t_{SKS}	$0.00301^{+0.00067}_{-0.00097}$	$0.00398^{+0.00056}_{-0.00065}$	3447	$0.13104^{+0.019}_{-0.028}$	$0.15417^{+0.015}_{-0.02}$	2786
t_{FGD}	$0.00488^{+0.0013}_{-0.0016}$	$0.00669^{+0.0011}_{-0.001}$	5693	$0.15039^{+0.017}_{-0.027}$	$0.17553^{+0.012}_{-0.015}$	4625
t_{MMD}	$0.00257^{+0.001}_{-0.00091}$	$0.00349^{+0.0001}_{-0.00081}$	13333	$0.37231^{+0.04}_{-0.061}$	$0.43454^{+0.03}_{-0.033}$	9278
t_{NPLM}	$0.00039^{+0.00011}_{-0.00012}$	$0.00047^{+0.0001}_{-0.0001}$	26892	$0.07464^{+0.01}_{-0.014}$	$0.08382^{+0.0076}_{-0.011}$	23292
t_{LLR}	$1e-05^{+1e-05}_{-1e-05}$	$2e-05^{+0}_{-1e-05}$	8857	-	-	-

Statistic	$\mathcal{U}$-deformation			Timing	
	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\text{CL}}$	t (s)	t^{null} (s)	
t_{SW}	$0.27854^{+0.033}_{-0.055}$	$0.32293^{+0.025}_{-0.035}$	**2497**	384	
$t_{\overline{\text{KS}}}$	$\mathbf{0.00979^{+0.0023}_{-0.0028}}$	$\mathbf{0.01236^{+0.0019}_{-0.0023}}$	2980	**321**	
t_{SKS}	$0.22648^{+0.032}_{-0.049}$	$0.26646^{+0.026}_{-0.034}$	2674	721	
t_{FGD}	$0.26002^{+0.03}_{-0.046}$	$0.30348^{+0.021}_{-0.026}$	4428	5139	
t_{MMD}	$0.64451^{+0.068}_{-0.094}$	$0.75224^{+0.053}_{-0.053}$	9043	16625	
t_{NPLM}	$0.1286^{+0.019}_{-0.025}$	$0.14441^{+0.013}_{-0.018}$	22599	35063	
t_{LLR}	-	-	-	-	