

**MoG model with  $d = 100$ ,  $q = 10$ , and  $n = m = 2 \cdot 10^4$**

$\mu$ -deformation				$\Sigma_{ii}$ -deformation		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)
$t_{SW}$	$0.06686^{+0.019}_{-0.023}$	$0.08691^{+0.017}_{-0.019}$	<b>698</b>	$0.02176^{+0.0058}_{-0.0075}$	$0.02825^{+0.0052}_{-0.006}$	<b>766</b>
$t_{\overline{KS}}$	<b><math>0.0052^{+0.0021}_{-0.0021}</math></b>	<b><math>0.00766^{+0.0022}_{-0.0023}</math></b>	1312	<b><math>0.00132^{+0.00073}_{-0.00062}</math></b>	<b><math>0.00216^{+0.00083}_{-0.00078}</math></b>	1447
$t_{SKS}$	$0.05483^{+0.014}_{-0.017}$	$0.07079^{+0.012}_{-0.014}$	737	$0.01903^{+0.0038}_{-0.0051}$	$0.02404^{+0.0031}_{-0.0037}$	813
$t_{FGD}$	$0.0917^{+0.024}_{-0.025}$	$0.11605^{+0.021}_{-0.022}$	5212	$0.02962^{+0.0062}_{-0.0077}$	$0.03721^{+0.005}_{-0.0056}$	5272
$t_{MMD}$	$0.08171^{+0.015}_{-0.019}$	$0.10334^{+0.013}_{-0.014}$	1992	$0.01681^{+0.0034}_{-0.0038}$	$0.02112^{+0.0029}_{-0.0031}$	2247
$t_{LLR}$	$6e-05^{+4e-05}_{-4e-05}$	$9e-05^{+4e-05}_{-4e-05}$	5633	$1e-05^{+1e-05}_{-1e-05}$	$2e-05^{+1e-05}_{-1e-05}$	6765
$\Sigma_{i \neq j}$ -deformation				pow $_+$ -deformation		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow+}$	$t$ (s)
$t_{SW}$	$0.0063^{+0.0015}_{-0.002}$	$0.00832^{+0.0013}_{-0.0016}$	<b>15486</b>	$0.00863^{+0.0022}_{-0.0029}$	$0.01123^{+0.002}_{-0.0024}$	<b>784</b>
$t_{\overline{KS}}$	$1.00219^{+0.00074}_{-0.0017}$	$1.00219^{+0.00098}_{-0.00042}$	18574	<b><math>0.00049^{+0.0003}_{-0.00024}</math></b>	<b><math>0.00084^{+0.00031}_{-0.00032}</math></b>	1622
$t_{SKS}$	$0.00471^{+0.0014}_{-0.0016}$	$0.00618^{+0.0013}_{-0.0015}$	19756	$0.0077^{+0.0013}_{-0.002}$	$0.00961^{+0.0011}_{-0.0013}$	822
$t_{FGD}$	<b><math>0.00362^{+0.00079}_{-0.00093}</math></b>	<b><math>0.00461^{+0.00058}_{-0.0007}</math></b>	23515	$0.01177^{+0.0023}_{-0.0029}$	$0.01473^{+0.002}_{-0.0023}$	4103
$t_{MMD}$	$0.0086^{+0.0024}_{-0.0027}$	$0.01098^{+0.0022}_{-0.0022}$	18798	$0.00608^{+0.0012}_{-0.0014}$	$0.00762^{+0.0011}_{-0.0011}$	2406
$t_{LLR}$	$0.01886^{+0.0071}_{-0.0072}$	$0.0233^{+0.0072}_{-0.0078}$	18881	$0.0^{+1e-05}_{-0}$	$1e-05^{+0}_{-1e-05}$	5652
pow $_-$ -deformation				$\mathcal{N}$ -deformation		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow-}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{N}}$	$t$ (s)
$t_{SW}$	$0.00879^{+5}_{-0.003}$	$0.01149^{+5}_{-0.0025}$	<b>703</b>	$0.27003^{+0.034}_{-0.053}$	$0.31096^{+0.026}_{-0.036}$	<b>659</b>
$t_{\overline{KS}}$	<b><math>0.0005^{+0.00031}_{-0.00025}</math></b>	<b><math>0.00085^{+0.00033}_{-0.00034}</math></b>	832	<b><math>0.01686^{+0.0067}_{-0.0081}</math></b>	<b><math>0.02454^{+0.0062}_{-0.0071}</math></b>	730
$t_{SKS}$	$0.00767^{+0.0014}_{-0.0021}$	$0.00962^{+0.0011}_{-0.0015}$	840	$0.23297^{+0.032}_{-0.049}$	$0.26623^{+0.028}_{-0.034}$	705
$t_{FGD}$	$0.0118^{+0.0024}_{-0.003}$	$0.01489^{+0.002}_{-0.0023}$	4175	$0.23954^{+0.023}_{-0.034}$	$0.26901^{+0.019}_{-0.021}$	3372
$t_{MMD}$	$0.00568^{+0.0017}_{-0.0018}$	$0.00733^{+0.0015}_{-0.0015}$	2584	$1.01706^{+0.091}_{-0.13}$	$1.14737^{+0.064}_{-0.077}$	1740
$t_{LLR}$	$0.0^{+1e-05}_{-0}$	$1e-05^{+0}_{-1e-05}$	7345	-	-	-
$\mathcal{U}$ -deformation				Timing		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{U}}$	$t$ (s)	$t^{\text{null}}$ (s)		
$t_{FGD}$	$0.41583^{+0.039}_{-0.059}$	$0.46699^{+0.033}_{-0.04}$	3032	7869		
$t_{LLR}$	-	-	-	-		
$t_{MMD}$	$1.75184^{+0.17}_{-0.22}$	$1.9784^{+0.13}_{-0.15}$	1931	2411		
$t_{SKS}$	$0.40136^{+0.059}_{-0.083}$	$0.46142^{+0.05}_{-0.057}$	687	618		
$t_{SW}$	$0.46758^{+0.057}_{-0.092}$	$0.53846^{+0.045}_{-0.062}$	<b>626</b>	<b>313</b>		
$t_{\overline{KS}}$	<b><math>0.02575^{+0.01}_{-0.012}</math></b>	<b><math>0.03716^{+0.0098}_{-0.01}</math></b>	716	545		