

**MoG model with  $d = 20$ ,  $q = 5$ , 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)
$t_{SW}$	$0.0705^{+0.029}_{-0.03}$	$0.09728^{+0.028}_{-0.027}$	<b>2879</b>	$0.02552^{+0.0073}_{-0.0093}$	$0.03528^{+0.0065}_{-0.0072}$	<b>3063</b>
$t_{KS}$	<b><math>0.00723^{+0.002}_{-0.0027}</math></b>	<b><math>0.01001^{+0.0017}_{-0.0021}</math></b>	3020	<b><math>0.00268^{+0.00078}_{-0.001}</math></b>	<b><math>0.00381^{+0.00066}_{-0.0008}</math></b>	3153
$t_{SKS}$	$0.05224^{+0.019}_{-0.021}$	$0.0723^{+0.017}_{-0.018}$	2976	$0.02037^{+0.0044}_{-0.0062}$	$0.02765^{+0.0037}_{-0.0043}$	3092
$t_{FGD}$	$0.08351^{+0.042}_{-0.035}$	$0.11456^{+0.039}_{-0.032}$	3069	$0.02984^{+0.0081}_{-0.0089}$	$0.04052^{+0.0071}_{-0.0069}$	3280
$t_{MMD}$	$0.06823^{+0.033}_{-0.03}$	$0.09628^{+0.029}_{-0.026}$	3967	$0.01531^{+0.0078}_{-0.0065}$	$0.02118^{+0.0073}_{-0.0059}$	4361
$t_{LLR}$	$0.00035^{+0.0002}_{-0.0002}$	$0.0005^{+0.0002}_{-0.00021}$	4803	$0.00011^{+7e-05}_{-6e-05}$	$0.00016^{+7e-05}_{-7e-05}$	6129
$\Sigma_{i \neq j}$ -deformation				pow <sub>+</sub> -deformation		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow+}$	$t$ (s)
$t_{SW}$	$0.00579^{+0.0014}_{-0.002}$	$0.00798^{+0.0012}_{-0.0015}$	2088	$0.00885^{+0.0026}_{-0.0032}$	$0.01229^{+0.0023}_{-0.0026}$	3289
$t_{KS}$	<b><math>0.00049^{+0.00018}_{-0.00019}</math></b>	<b><math>0.00072^{+0.00017}_{-0.00018}</math></b>	<b>2029</b>	<b><math>0.00063^{+0.00022}_{-0.00027}</math></b>	<b><math>0.00092^{+0.0002}_{-0.00023}</math></b>	3366
$t_{SKS}$	$0.00368^{+0.0012}_{-0.0014}$	$0.00513^{+0.0011}_{-0.0012}$	2151	$0.00669^{+0.0014}_{-0.0019}$	$0.00899^{+0.001}_{-0.0013}$	<b>3252</b>
$t_{FGD}$	$0.00423^{+0.001}_{-0.0012}$	$0.00584^{+0.00082}_{-0.00086}$	2620	$0.01094^{+0.0026}_{-0.0032}$	$0.01482^{+0.0021}_{-0.0023}$	3782
$t_{MMD}$	$0.00804^{+0.0032}_{-0.0033}$	$0.01143^{+0.0029}_{-0.0027}$	3204	$0.00543^{+0.0025}_{-0.0022}$	$0.00756^{+0.0022}_{-0.0019}$	4416
$t_{LLR}$	$1e-05^{+0}_{-1e-05}$	$1e-05^{+0}_{-1e-05}$	4788	$2e-05^{+2e-05}_{-1e-05}$	$3e-05^{+2e-05}_{-1e-05}$	5340
pow <sub>-</sub> -deformation				$\mathcal{N}$ -deformation		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow-}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{N}}$	$t$ (s)
$t_{SW}$	$0.00925^{+5}_{-0.0034}$	$0.01271^{+5}_{-0.0027}$	<b>2942</b>	$0.23992^{+0.03}_{-0.05}$	$0.28403^{+0.022}_{-0.031}$	<b>2619</b>
$t_{KS}$	<b><math>0.00063^{+0.00022}_{-0.00027}</math></b>	<b><math>0.00092^{+0.00019}_{-0.00023}</math></b>	3365	<b><math>0.01024^{+0.003}_{-0.0035}</math></b>	<b><math>0.01397^{+0.003}_{-0.0031}</math></b>	3009
$t_{SKS}$	$0.0069^{+0.0014}_{-0.002}$	$0.00915^{+0.0011}_{-0.0014}$	3261	$0.19595^{+0.03}_{-0.043}$	$0.2337^{+0.024}_{-0.03}$	2760
$t_{FGD}$	$0.01118^{+0.0027}_{-0.0032}$	$0.01522^{+0.0022}_{-0.0024}$	3767	$0.22616^{+0.025}_{-0.035}$	$0.26573^{+0.017}_{-0.02}$	3056
$t_{MMD}$	$0.0054^{+0.0026}_{-0.0024}$	$0.00762^{+0.0024}_{-0.0021}$	4486	$0.5492^{+0.07}_{-0.098}$	$0.65017^{+0.049}_{-0.055}$	3135
$t_{LLR}$	$3e-05^{+1e-05}_{-2e-05}$	$4e-05^{+1e-05}_{-2e-05}$	5271	-	-	-
$\mathcal{U}$ -deformation				Timing		
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{U}}$	$t$ (s)	$t^{\text{null}}$ (s)		
$t_{SW}$	$0.414^{+0.054}_{-0.084}$	$0.49011^{+0.037}_{-0.054}$	<b>2594</b>	302		
$t_{KS}$	<b><math>0.01605^{+0.0043}_{-0.0049}</math></b>	<b><math>0.02144^{+0.0043}_{-0.0046}</math></b>	2920	<b>120</b>		
$t_{SKS}$	$0.33963^{+0.052}_{-0.08}$	$0.4023^{+0.04}_{-0.052}$	2714	397		
$t_{FGD}$	$0.39292^{+0.043}_{-0.06}$	$0.46165^{+0.029}_{-0.038}$	2912	1022		
$t_{MMD}$	$0.95249^{+0.13}_{-0.18}$	$1.13574^{+0.077}_{-0.099}$	3196	2276		
$t_{LLR}$	-	-	-	-		