	MoG 1	$\mathbf{model\ with\ d} = 1$	00, q = 1	10, and $n = m =$	10^{5}	
μ -deformation				Σ_{ii} -deformation		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$0.02814^{+0.0099}_{-0.012}$	$0.03797^{+0.009}_{-0.01}$	950	$0.00918^{+0.0025}_{-0.0035}$	$0.01247^{+0.0022}_{-0.0026}$	1022
$t_{\overline{ ext{KS}}}$	$0.00222^{+0.00077}_{-0.00084}$	$0.00307^{+0.00073}_{-0.00077}$	1541	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$0.00073^{+0.0002}_{-0.0002}$	1689
$t_{ m SKS}$	$0.02341^{+0.0067}_{-0.0087}$	$0.03148^{+0.0061}_{-0.0069}$	1475	$0.00812^{+0.0016}_{-0.0024}$	$0.01068^{+0.0013}_{-0.0016} \\ 0.01631^{+0.0024}_{-0.0029}$	1557
$t_{ m FGD}$	$0.03878^{+0.013}_{-0.014}$	$0.05066^{+0.011}$	20712	$0.01263^{+0.0031}_{-0.0038}$	$0.01631^{+0.0024}_{-0.0029}$	18446
$t_{ m MMD}$	$\begin{array}{c} 0.03878^{+0.013}_{-0.014} \\ 0.03601^{+0.0081}_{-0.01} \end{array}$	$0.04577^{+0.0065}_{-0.0076}$	10677	$0.00722^{+0.0022}_{-0.0024}$	$0.00915^{+0.0019}_{-0.002}$	11691
$t_{ m NPLM}$	- 0 0000±U UUU93	$\begin{array}{c} 0.04577^{+0.0065}_{-0.0076} \\ 0.00354^{+0.00079}_{-0.00096} \end{array}$	44613	$\begin{array}{c} \textbf{0.00031} \begin{array}{c} \textbf{-0.0002} \\ 0.00812 \begin{array}{c} +0.0016 \\ -0.0024 \end{array} \\ 0.01263 \begin{array}{c} +0.0016 \\ -0.0038 \end{array} \\ 0.00722 \begin{array}{c} +0.0024 \\ -0.0024 \end{array} \\ 0.00094 \begin{array}{c} +0.00029 \\ -0.0004 \end{array} \end{array}$	$0.00114^{+0.00026}_{-0.00031}$	39241
$t_{ m LLR}$	$\begin{array}{ c c c c c c }\hline 0.0029^{+0.0012}_{-0.0012}\\ 2e - 05^{+2e-05}_{-1e-05}\\ \end{array}$	$4e - 05^{+1e - 05}_{-2e - 05}$	24750	0.0^{+1e-05}_{-0}	$1e - 05^{+0}_{-1e-05}$	34527
$\Sigma_{i \neq j}$ -deformation				$\mathrm{pow}_+\text{-}\mathrm{deformation}$		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{c} 0.02315^{+0.0036}_{-0.0045} \\ 1.00073^{+0.00025}_{-0.00012} \\ 0.02508^{+0.0043}_{-0.0052} \\ \textbf{0.00389}^{+0.0006}_{-0.00068} \\ \end{array}$	3531	$ \begin{array}{c c} 0.00368^{+0.001}_{-0.0014} \\ \textbf{0.00018}^{+8e-05}_{-7e-05} \\ 0.00331^{+0.0006}_{-0.00092} \end{array} $	$0.00498^{+0.00086}_{-0.001}$	1026
$t_{\overline{ ext{KS}}}$	$1.00061^{+0.00012}_{-0.00012}$	$1.00073^{+0.00025}_{-0.00012}$	9908	$0.00018^{+8\mathrm{e}-05}_{-7\mathrm{e}-05}$	$\begin{array}{c} \textbf{0.00027} + \textbf{7e-05} \\ \textbf{0.00027} + \textbf{7e-05} \\ -\textbf{8e-05} \\ 0.0043 + 0.00047 \\ 0.00058 \\ 0.00652 + 0.00098 \\ 0.00012 \end{array}$	1743
$t_{ m SKS}$	$0.01855^{+0.0049}_{-0.0066}$	$0.02508^{+0.0043}_{-0.0052}$	4171	$0.00331^{+0.0006}_{-0.00092}$	$0.0043^{+0.00047}_{-0.00058}$	1594
$t_{ m FGD}$	$\mid 0.00299^{+0.00073}_{-0.00088} \mid$	$0.00389^{+0.0006}_{-0.00068}$	25716	$0.00505^{+0.0012}_{-0.0016}$	$0.00652^{+0.00098}_{-0.0012}$	19149
$t_{ m MMD}$	$0.01259^{+0.0035}_{-0.0039}$	$0.01586^{+0.0032}_{-0.0032}$	14405	$0.00263^{+0.00077}_{-0.00088}$	$0.0033^{+0.0007}_{-0.00071}$	12093
$t_{ m NPLM}$	$0.0012^{+0.0005}_{-0.0005}$	$0.0015^{+0.00041}_{-0.0004}$	47259	$0.00036^{+0.00011}_{-0.00015}$	$0.00044^{+0.0001}_{-0.00012}$	53210
$t_{ m LLR}$	-	-	-	0.0^{+0}_{-0}	0.0^{+0}_{-0}	30414
$pow\deformation$				$\mathcal{N} ext{-deformation}$		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$0.00374^{+5}_{-0.0014}$	$0.00505^{+5}_{-0.0011}$	935	$ \begin{array}{c c} 0.17253^{+0.022}_{-0.036} \\ \textbf{0.00606}^{+0.0029}_{-0.0031} \\ 0.14876^{+0.02}_{-0.031} \\ \end{array} $	$0.20139^{+0.016}_{-0.021}$	838
$t_{\overline{ ext{KS}}}$	$\begin{array}{c} \textbf{0.00018} \\ \textbf{0.00018} \\ \textbf{-7e-05} \\ 0.00331 \\ \textbf{-0.00098} \\ \end{array}$	$0.00027^{+8e-05}_{-8e-05}$ $0.0043^{+0.00051}_{-0.00063}$	1753	$0.00606^{+0.0029}_{-0.0031}$	$0.00921^{+0.0027}_{-0.003}$ $0.17443^{+0.016}_{-0.0214}$	1589
$t_{ m SKS}$	$0.00331^{+0.00064}_{-0.00098}$	$0.0043^{+0.00051}_{-0.00063}$	1605	$0.14876^{+0.02}_{-0.031}$	$0.17443^{+0.016}_{-0.021}$	1363
$t_{ m FGD}$	-0.00 -0.0012	$0.00655^{+0.001}_{-0.0012}$	19105	$0.15458^{+0.013}_{-0.027}$	$0.17576^{+0.014}_{-0.016}$	15222
$t_{ m MMD}$	$ \begin{array}{c} 0.00504_{-0.0016} \\ 0.00257_{-0.0008}^{+0.00071} \end{array} $	$0.00329^{+0.00064}_{-0.00066}$	12099	$0.67808^{+0.07}_{-0.11}$	$0.7615^{+0.053}_{-0.069}$	8142
$t_{ m NPLM}$	$0.00035^{+0.00011}_{-0.00015}$	$0.00043^{+0.0001}_{-0.00012}$	44155	$0.12423^{+0.023}_{-0.041}$	$0.14175^{+0.016}_{-0.028}$	31727
$t_{ m LLR}$	0.0^{+0}_{-0}	0.0^{+0}_{-0}	39144	-	-	_
$\mathcal{U} ext{-} ext{deformation}$				Timing		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	t^{null} (s)		
$t_{ m SW}$	$ \begin{array}{c c} 0.2996^{+0.036}_{-0.063} \\ \textbf{0.00925}^{+0.0047}_{-0.005} \\ 0.25702^{+0.037}_{-0.054} \end{array} $	$0.34972^{+0.028}_{-0.038}$ $0.01423^{+0.0043}_{-0.0048}$ $0.30137^{+0.028}_{-0.036}$	665	476		
$t_{\overline{ ext{KS}}}$	$0.00925^{+0.0047}_{-0.005}$	$0.01423_{-0.0048}^{+0.0043}$	1590	1594		
$t_{ m SKS}$	$0.25702^{+0.037}_{-0.054}$	$0.30137^{+0.028}_{-0.036}$	1316	1753		
$t_{ m FGD}$	$0.26668^{+0.031}_{-0.044}$	$0.3051_{-0.03}^{+0.022}$	12103	39629		
$t_{ m MMD}$	$1.17598^{+0.12}_{-0.19}$	$1.32064^{+0.093}_{-0.12}$	9105	18930		
$t_{ m NPLM}$	$\begin{array}{c} 1.17598_{-0.19}^{+0.12} \\ 0.21387_{-0.066}^{+0.039} \end{array}$	$0.24534_{-0.043}^{+0.029}$	29733	50710		
$t_{ m LLR}$	-	-	-	-		