${\rm MoG\ model\ with\ d=5,\ q=3,\ and\ n=m=10^5}$						
	μ -deformation			Σ_{ii} -deformation		
Statistic	$\epsilon_{95\% ext{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$\begin{array}{c} 0.02927^{+0.01}_{-0.0098} \\ 0.00146^{+0.00055}_{-0.00057} \\ 0.01762^{+0.0061}_{-0.0062} \\ 0.03532^{+0.019}_{-0.014} \\ 0.01904^{+0.011}_{-0.0077} \\ 0.00292^{+0.00017}_{-0.0011} \end{array}$	$0.04035^{+0.01}_{-0.0095}$	1681	$ \begin{array}{c} 0.00935^{+0.0028}_{-0.0032} \\ 0.00084^{+0.00023}_{-0.00026} \\ 0.00504^{+0.0012}_{-0.0016} \\ 0.01036^{+0.0013}_{-0.0037} \\ 0.00456^{+0.0019}_{-0.0015} \\ 0.00066^{+0.00023}_{-0.00022} \end{array} $	$0.01322^{+0.0026}_{-0.0027} \ 0.0011^{+0.00023}_{-0.00023}$	1787
$t_{\overline{ ext{KS}}}$	$0.00146^{+0.00055}_{-0.00057}$	$\begin{array}{c} \textbf{0.00202} \begin{array}{c} -0.0095 \\ \textbf{0.00202} \begin{array}{c} -0.00054 \\ -0.00055 \end{array} \\ 0.0237 \begin{array}{c} -0.0059 \\ -0.0059 \end{array} \\ 0.04753 \begin{array}{c} -0.017 \\ -0.013 \end{array} \end{array}$	1351	$0.00084^{+0.00023}_{-0.00026}$	$0.0011^{+0.00023}_{-0.00023}$	1394
$t_{ m SKS}$	$0.01762^{+0.0061}_{-0.0062}$	$0.0237^{+0.0059}_{-0.0059}$	1523	$0.00504^{+0.0012}_{-0.0016}$	$0.00694^{+0.0011}_{-0.0012}$	1591
$t_{ m FGD}$	$0.03532^{+0.019}_{-0.014}$	$0.04753^{+0.017}_{-0.013}$	2364	$0.01036^{+0.0034}_{-0.0037}$	$0.01442^{+0.0029}_{-0.003}$	2518
$t_{ m MMD}$	$0.01904^{+0.011}_{-0.0077}$	$\begin{array}{c} 0.01755_{-0.013}^{+0.013} \\ 0.02548_{-0.0076}^{+0.0076} \\ 0.00357_{-0.0009}^{+0.00091} \end{array}$	10489	$0.00456^{+0.0019}_{-0.0015}$	$\begin{array}{c} 0.01442^{+0.0029}_{-0.003} \\ 0.00605^{+0.0017}_{-0.0014} \\ 0.00081^{+0.00021}_{-0.0002} \\ \end{array}$	11046
$t_{ m NPLM}$	$0.00292^{+0.00097}_{-0.0011}$	$0.00357_{-0.0009}^{+0.00091} \\ 0.00033_{-0.00013}^{+0.00014}$	22059	$0.00066^{+0.00023}_{-0.00022}$	$0.00081_{-0.0002}^{+0.00021} \\ 0.00011_{-5e-05}^{+6e-05}$	22663
$t_{ m LLR}$	$0.00292_{-0.0011} \\ 0.00024_{-0.00013}^{+0.00014}$		3539	$8e - 05^{+6e - 05}_{-5e - 05}$		3795
$\Sigma_{i \neq j}$ -deformation			pow_+ -deformation			
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$\begin{array}{c} 0.0184^{+0.0045}_{-0.006} \\ 1.00067^{+0.00037}_{-6e-05} \\ 0.01735^{+0.0055}_{-0.0064} \\ \textbf{0.00739}^{+0.002}_{-0.0024} \\ \end{array}$	$0.02579^{+0.0037}_{-0.0045} \\ 1.00122^{+0.00018}_{-0.00046}$	1548	$ \begin{array}{c c} 0.00584^{+0.0017}_{-0.002} \\ 0.00103^{+0.00032}_{-0.00034} \end{array} $	$0.00823^{+0.0016}_{-0.0016} \\ 0.00138^{+0.00031}_{-0.00031}$	1647
$t_{\overline{ ext{KS}}}$	$1.00067^{+0.00037}_{-6e-05}$	$1.00122^{+0.00018}_{-0.00046}$	1612	$0.00103^{+0.00032}_{-0.00034}$	$0.00138^{+0.00031}_{-0.00031}$	1377
$t_{ m SKS}$	$0.01735^{+0.0055}_{-0.0064}$	$0.02357^{+0.005}_{-0.0054}$	1731	$\begin{array}{c} -0.00329 \\ 0.00329 \\ -0.00091 \\ 0.00639 \\ -0.0024 \\ -0.0024 \\ \end{array}$	$0.00446^{+0.00063}_{-0.0007}$ $0.00883^{+0.0018}_{-0.0019}$	1992
$t_{\rm FGD}$	$0.00739^{+0.002}_{-0.0024}$	$0.01031^{+0.0017}_{-0.0017}$	2799	$0.00639^{+0.0021}_{-0.0024}$	$0.00883^{+0.0018}_{-0.0019}$	2503
$t_{ m MMD}$	$0.0159^{+0.0008}_{-0.0056}$	$0.02113^{+0.0057}_{-0.0051}$	11026	$0.00264^{+0.0011}_{-0.00089}$	$0.00349^{+0.001}_{-0.00085}$	14540
$t_{ m NPLM}$	$0.00104^{+0.00036}_{-0.00034}$	$0.0013^{+0.00031}_{-0.0003}$	21232	$0.00043^{+0.00015}_{-0.00015}$	$0.00053^{+0.00014}_{-0.00013}$	35105
$t_{ m LLR}$	-	-	-	$0.00012^{+8e-05}_{-9e-05}$	$0.00017^{+8e-05}_{-9e-05}$	4452
powdeformation			$\mathcal{N} ext{-deformation}$			
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\%\text{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$\begin{array}{c} 0.00606^{+0.0017}_{-0.0021} \\ \textbf{0.00098}^{+0.00037}_{-0.00037} \\ 0.00333^{+0.00084}_{-0.002} \end{array}$	$\begin{array}{c} 0.00856^{+0.0015}_{-0.0017} \\ \textbf{0.00133}^{+0.00035}_{-0.00036} \\ 0.00446^{+0.00075}_{-0.00082} \end{array}$	1649	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	$0.16305^{+0.012}_{-0.016}$ $0.00539^{+0.00062}_{-0.00069}$ $0.11293^{+0.011}_{-0.014}$	1344
$t_{\overline{ ext{KS}}}$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$0.00133^{+0.00035}_{-0.00036}$	1366	$0.00454^{+0.00072}_{-0.00082}$	$0.00539^{+0.00062}_{-0.00069}$	$\boldsymbol{1281}$
$t_{ m SKS}$	$0.00333^{+0.00084}_{-0.001}$	$0.00446^{+0.00075}_{-0.00082}$	2034	$ 0.09534^{+0.015}_{-0.02}$	$0.11293^{+0.011}_{-0.014}$	1707
$t_{\rm FGD}$	$0.00659_{-0.0024}^{+0.002} \\ 0.00267_{-0.0011}^{+0.0013}$	$0.00905^{+0.0017}_{-0.0017}$	2508	$0.16354^{+0.02}_{-0.031}_{-0.037}$	$0.19223_{-0.018}^{+0.014}$	2022
$t_{ m MMD}$	$0.00267^{+0.0013}_{-0.0011}$	$0.00357^{+0.0012}_{-0.001}$	11378	$0.21459_{-0.032}^{+0.027}$	$0.24752^{+0.021}_{-0.025}$	8643
$t_{ m NPLM}$	$\begin{array}{c} 0.00045^{+0.00017}_{-0.00018} \\ 0.00013^{+9e-05}_{-9e-05} \end{array}$	$\begin{array}{c} 0.00055^{+0.00016}_{-0.00016} \\ 0.00018^{+9e-05}_{-8e-05} \end{array}$	26557	$0.06184_{-0.013}^{+0.0082}$	$0.0677^{+0.008}_{-0.0084}$	18263
$t_{ m LLR}$			4419	-	-	_
$\mathcal{U} ext{-deformation}$			Timing			
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	t^{null} (s)		
$t_{ m SW}$	$\begin{array}{c} 0.23671^{+0.03}_{-0.043} \\ \textbf{0.00774}^{+0.0011}_{-0.0014} \end{array}$	$0.28278^{+0.023}_{-0.028}$	1318	363		
$t_{\overline{\mathrm{KS}}}$	$0.00774^{+0.0011}_{-0.0014}$	$0.00915^{+0.001}_{-0.0012}$	$\bf 1236$	77		
$t_{ m SKS}$	$\begin{array}{c} \textbf{0.00774} \\ -0.0014 \\ 0.16389 \\ -0.034 \\ 0.28233 \\ -0.054 \\ \end{array}$	$0.28278^{+0.023}_{-0.028}$ $0.00915^{+0.0012}_{-0.0012}$ $0.19413^{+0.019}_{-0.025}$ $0.33186^{+0.024}_{-0.036}$	1681	672		
$t_{ m FGD}$	$0.28233^{+0.035}_{-0.054}$	$0.33186^{+0.024}_{-0.03}$	1941	2259		
$t_{ m MMD}$	$0.3715^{+0.045}_{-0.055}$	$0.42782^{+0.036}_{-0.043}$	7912	16290		
$t_{ m NPLM}$	$0.10661^{+0.013}_{-0.022}$	$0.11748^{+0.013}_{-0.015}$	15582	39358		
$t_{ m LLR}$	_	-	-	_		