

**CG model with  $d = 5$  and  $n = m = 5 \cdot 10^4$**

$\mu$ -deformation							$\Sigma_{ii}$ -deformation						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)
$t_{SW}$	$0.04284^{+0.023}_{-0.019}$	$0.05813^{+0.022}_{-0.019}$	571	$0.01631^{+0.0056}_{-0.0061}$	$0.02247^{+0.0053}_{-0.0054}$	635	$t_{SW}$	$0.01631^{+0.0056}_{-0.0061}$	$0.02247^{+0.0053}_{-0.0054}$	635	$0.01631^{+0.0056}_{-0.0061}$	$0.02247^{+0.0053}_{-0.0054}$	635
$t_{\overline{KS}}$	<b><math>0.03969^{+0.019}_{-0.017}</math></b>	<b><math>0.05257^{+0.018}_{-0.017}</math></b>	<b>376</b>	$0.02757^{+0.0098}_{-0.011}$	$0.03802^{+0.0095}_{-0.0096}$	<b>393</b>	$t_{\overline{KS}}$	$0.02757^{+0.0098}_{-0.011}$	$0.03802^{+0.0095}_{-0.0096}$	<b>393</b>	$0.02757^{+0.0098}_{-0.011}$	$0.03802^{+0.0095}_{-0.0096}$	<b>393</b>
$t_{SKS}$	$0.04511^{+0.023}_{-0.02}$	$0.06047^{+0.022}_{-0.021}$	648	$0.02164^{+0.0077}_{-0.0084}$	$0.02958^{+0.0072}_{-0.0075}$	697	$t_{SKS}$	$0.02164^{+0.0077}_{-0.0084}$	$0.02958^{+0.0072}_{-0.0075}$	697	$0.02164^{+0.0077}_{-0.0084}$	$0.02958^{+0.0072}_{-0.0075}$	697
$t_{FGD}$	$0.0398^{+0.029}_{-0.019}$	$0.05631^{+0.026}_{-0.019}$	797	<b><math>0.0131^{+0.0069}_{-0.0056}</math></b>	<b><math>0.01812^{+0.0063}_{-0.0052}</math></b>	828	$t_{FGD}$	<b><math>0.0131^{+0.0069}_{-0.0056}</math></b>	<b><math>0.01812^{+0.0063}_{-0.0052}</math></b>	828	<b><math>0.0131^{+0.0069}_{-0.0056}</math></b>	<b><math>0.01812^{+0.0063}_{-0.0052}</math></b>	828
$t_{MMD}$	$0.05271^{+0.038}_{-0.025}$	$0.07325^{+0.036}_{-0.025}$	8012	$0.01512^{+0.011}_{-0.0072}$	$0.0211^{+0.01}_{-0.0073}$	8413	$t_{MMD}$	$0.01512^{+0.011}_{-0.0072}$	$0.0211^{+0.01}_{-0.0073}$	8413	$0.01512^{+0.011}_{-0.0072}$	$0.0211^{+0.01}_{-0.0073}$	8413
$t_{LLR}$	$0.01301^{+0.0092}_{-0.009}$	$0.01876^{+0.0091}_{-0.009}$	2396	$0.00271^{+0.0015}_{-0.0015}$	$0.0039^{+0.0015}_{-0.0015}$	3446	$t_{LLR}$	$0.00271^{+0.0015}_{-0.0015}$	$0.0039^{+0.0015}_{-0.0015}$	3446	$0.00271^{+0.0015}_{-0.0015}$	$0.0039^{+0.0015}_{-0.0015}$	3446
$\Sigma_{i \neq j}$ -deformation							pow <sub>+</sub> -deformation						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)
$t_{SW}$	$0.01816^{+0.0047}_{-0.0056}$	$0.02635^{+0.0041}_{-0.0044}$	1029	$0.00417^{+0.0019}_{-0.0018}$	$0.00577^{+0.0019}_{-0.0017}$	647	$t_{SW}$	$0.00417^{+0.0019}_{-0.0018}$	$0.00577^{+0.0019}_{-0.0017}$	647	$0.00417^{+0.0019}_{-0.0018}$	$0.00577^{+0.0019}_{-0.0017}$	647
$t_{\overline{KS}}$	$1.02787^{+0.0073}_{-0.009}$	$1.03299^{+0.015}_{-0.0035}$	<b>732</b>	$0.00583^{+0.0024}_{-0.0023}$	$0.00769^{+0.0023}_{-0.0022}$	<b>417</b>	$t_{\overline{KS}}$	$0.00583^{+0.0024}_{-0.0023}$	$0.00769^{+0.0023}_{-0.0022}$	<b>417</b>	$0.00583^{+0.0024}_{-0.0023}$	$0.00769^{+0.0023}_{-0.0022}$	<b>417</b>
$t_{SKS}$	$0.02437^{+0.007}_{-0.0081}$	$0.03375^{+0.0066}_{-0.0069}$	1128	$0.00469^{+0.002}_{-0.002}$	$0.00617^{+0.002}_{-0.0019}$	736	$t_{SKS}$	$0.00469^{+0.002}_{-0.002}$	$0.00617^{+0.002}_{-0.0019}$	736	$0.00469^{+0.002}_{-0.002}$	$0.00617^{+0.002}_{-0.0019}$	736
$t_{FGD}$	<b><math>0.00477^{+0.0011}_{-0.0012}</math></b>	<b><math>0.00662^{+0.00081}_{-0.001}</math></b>	1625	$0.00359^{+0.0022}_{-0.0017}$	$0.00496^{+0.002}_{-0.0016}$	927	$t_{FGD}$	<b><math>0.00477^{+0.0011}_{-0.0012}</math></b>	<b><math>0.00662^{+0.00081}_{-0.001}</math></b>	1625	$0.00359^{+0.0022}_{-0.0017}$	$0.00496^{+0.002}_{-0.0016}$	927
$t_{MMD}$	$0.02806^{+0.016}_{-0.012}$	$0.03952^{+0.016}_{-0.012}$	8999	<b><math>0.00284^{+0.0021}_{-0.0014}</math></b>	<b><math>0.00398^{+0.002}_{-0.0014}</math></b>	9273	$t_{MMD}$	<b><math>0.00284^{+0.0021}_{-0.0014}</math></b>	<b><math>0.00398^{+0.002}_{-0.0014}</math></b>	9273	<b><math>0.00284^{+0.0021}_{-0.0014}</math></b>	<b><math>0.00398^{+0.002}_{-0.0014}</math></b>	9273
$t_{LLR}$	$0.02739^{+0.0094}_{-0.013}$	$0.0329^{+0.0095}_{-0.0097}$	3207	$0.00098^{+0.00058}_{-0.00057}$	$0.00142^{+0.00058}_{-0.00057}$	3659	$t_{LLR}$	$0.00098^{+0.00058}_{-0.00057}$	$0.00142^{+0.00058}_{-0.00057}$	3659	$0.00098^{+0.00058}_{-0.00057}$	$0.00142^{+0.00058}_{-0.00057}$	3659
pow <sub>-</sub> -deformation							$\mathcal{N}$ -deformation						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)
$t_{SW}$	$0.00413^{+5}_{-0.0018}$	$0.00579^{+5}_{-0.0018}$	588	$0.24644^{+0.04}_{-0.049}$	$0.29702^{+0.032}_{-0.038}$	527	$t_{SW}$	$0.24644^{+0.04}_{-0.049}$	$0.29702^{+0.032}_{-0.038}$	527	$0.24644^{+0.04}_{-0.049}$	$0.29702^{+0.032}_{-0.038}$	527
$t_{\overline{KS}}$	$0.00575^{+0.0024}_{-0.0024}$	$0.00763^{+0.0022}_{-0.0022}$	<b>418</b>	$0.20579^{+0.037}_{-0.045}$	$0.24503^{+0.029}_{-0.032}$	<b>362</b>	$t_{\overline{KS}}$	$0.20579^{+0.037}_{-0.045}$	$0.24503^{+0.029}_{-0.032}$	<b>362</b>	$0.20579^{+0.037}_{-0.045}$	$0.24503^{+0.029}_{-0.032}$	<b>362</b>
$t_{SKS}$	$0.0047^{+0.002}_{-0.002}$	$0.00616^{+0.0019}_{-0.0018}$	741	$0.24062^{+0.041}_{-0.055}$	$0.28403^{+0.036}_{-0.039}$	611	$t_{SKS}$	$0.24062^{+0.041}_{-0.055}$	$0.28403^{+0.036}_{-0.039}$	611	$0.24062^{+0.041}_{-0.055}$	$0.28403^{+0.036}_{-0.039}$	611
$t_{FGD}$	$0.00358^{+0.002}_{-0.0014}$	$0.00501^{+0.0018}_{-0.0014}$	1012	<b><math>0.18192^{+0.02}_{-0.025}</math></b>	<b><math>0.21532^{+0.014}_{-0.016}</math></b>	787	$t_{FGD}$	<b><math>0.18192^{+0.02}_{-0.025}</math></b>	<b><math>0.21532^{+0.014}_{-0.016}</math></b>	787	<b><math>0.18192^{+0.02}_{-0.025}</math></b>	<b><math>0.21532^{+0.014}_{-0.016}</math></b>	787
$t_{MMD}$	<b><math>0.003^{+0.0022}_{-0.0014}</math></b>	<b><math>0.00421^{+0.0021}_{-0.0015}</math></b>	9129	$0.52411^{+0.13}_{-0.12}$	$0.61773^{+0.11}_{-0.098}$	6538	$t_{MMD}$	$0.52411^{+0.13}_{-0.12}$	$0.61773^{+0.11}_{-0.098}$	6538	$0.52411^{+0.13}_{-0.12}$	$0.61773^{+0.11}_{-0.098}$	6538
$t_{LLR}$	$0.0011^{+0.00057}_{-0.00058}$	$0.00153^{+0.00057}_{-0.00057}$	3561	-	-	-	$t_{LLR}$	-	-	-	-	-	-
$\mathcal{U}$ -deformation							Timing						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$t^{\text{null}}$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$t^{\text{null}}$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$
$t_{SW}$	$0.42947^{+0.066}_{-0.087}$	$0.514^{+0.054}_{-0.063}$	515	305	$0.42947^{+0.066}_{-0.087}$	$0.514^{+0.054}_{-0.063}$	$t_{SW}$	$0.42947^{+0.066}_{-0.087}$	$0.514^{+0.054}_{-0.063}$	515	305	$0.42947^{+0.066}_{-0.087}$	$0.514^{+0.054}_{-0.063}$
$t_{\overline{KS}}$	$0.35478^{+0.059}_{-0.077}$	$0.42387^{+0.05}_{-0.054}$	<b>349</b>	<b>41</b>	$0.35478^{+0.059}_{-0.077}$	$0.42387^{+0.05}_{-0.054}$	$t_{\overline{KS}}$	$0.35478^{+0.059}_{-0.077}$	$0.42387^{+0.05}_{-0.054}$	<b>349</b>	<b>41</b>	$0.35478^{+0.059}_{-0.077}$	$0.42387^{+0.05}_{-0.054}$
$t_{SKS}$	$0.41645^{+0.071}_{-0.095}$	$0.49422^{+0.057}_{-0.072}$	593	469	$0.41645^{+0.071}_{-0.095}$	$0.49422^{+0.057}_{-0.072}$	$t_{SKS}$	$0.41645^{+0.071}_{-0.095}$	$0.49422^{+0.057}_{-0.072}$	593	469	$0.41645^{+0.071}_{-0.095}$	$0.49422^{+0.057}_{-0.072}$
$t_{FGD}$	<b><math>0.31629^{+0.034}_{-0.044}</math></b>	<b><math>0.37162^{+0.023}_{-0.026}</math></b>	768	1015	<b><math>0.31629^{+0.034}_{-0.044}</math></b>	<b><math>0.37162^{+0.023}_{-0.026}</math></b>	$t_{FGD}$	<b><math>0.31629^{+0.034}_{-0.044}</math></b>	<b><math>0.37162^{+0.023}_{-0.026}</math></b>	768	1015	<b><math>0.31629^{+0.034}_{-0.044}</math></b>	<b><math>0.37162^{+0.023}_{-0.026}</math></b>
$t_{MMD}$	$0.90965^{+0.23}_{-0.21}$	$1.06663^{+0.2}_{-0.17}$	7192	13839	$0.90965^{+0.23}_{-0.21}$	$1.06663^{+0.2}_{-0.17}$	$t_{MMD}$	$0.90965^{+0.23}_{-0.21}$	$1.06663^{+0.2}_{-0.17}$	7192	13839	$0.90965^{+0.23}_{-0.21}$	$1.06663^{+0.2}_{-0.17}$
$t_{LLR}$	-	-	-	-	-	-	$t_{LLR}$	-	-	-	-	-	-