

**CG model with  $d = 20$  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)
$t_{SW}$	$0.04948^{+0.022}_{-0.021}$	$0.06621^{+0.021}_{-0.02}$	571	$0.02059^{+0.0066}_{-0.0078}$	$0.02732^{+0.0061}_{-0.0065}$	617	$t_{\overline{KS}}$	<b><math>0.04811^{+0.022}_{-0.021}</math></b>	$0.06605^{+0.021}_{-0.02}$	<b>407</b>	$0.02898^{+0.011}_{-0.012}$	$0.04029^{+0.0097}_{-0.01}$	<b>434</b>
$t_{\overline{KS}}$	$0.04841^{+0.021}_{-0.021}$	<b><math>0.06372^{+0.02}_{-0.02}</math></b>	655	$0.02623^{+0.0087}_{-0.01}$	$0.03417^{+0.0082}_{-0.0086}$	694	$t_{SKS}$	$0.05029^{+0.026}_{-0.022}$	$0.06539^{+0.024}_{-0.02}$	1886	<b><math>0.01695^{+0.007}_{-0.007}</math></b>	<b><math>0.02215^{+0.0065}_{-0.0059}</math></b>	1994
$t_{SKS}$	$0.05029^{+0.026}_{-0.022}$	$0.06539^{+0.024}_{-0.02}$	1886	<b><math>0.01695^{+0.007}_{-0.007}</math></b>	<b><math>0.02215^{+0.0065}_{-0.0059}</math></b>	1994	$t_{FGD}$	$0.0596^{+0.028}_{-0.02}$	$0.08041^{+0.026}_{-0.02}$	7733	$0.02325^{+0.011}_{-0.0079}$	$0.03109^{+0.01}_{-0.0079}$	8173
$t_{FGD}$	$0.0596^{+0.028}_{-0.02}$	$0.08041^{+0.026}_{-0.02}$	7733	$0.02325^{+0.011}_{-0.0079}$	$0.03109^{+0.01}_{-0.0079}$	8173	$t_{MMD}$	$0.00556^{+0.0031}_{-0.003}$	$0.00795^{+0.003}_{-0.003}$	2441	$0.00153^{+0.001}_{-0.00098}$	$0.0022^{+0.00098}_{-0.00099}$	3081
$t_{MMD}$	$0.00556^{+0.0031}_{-0.003}$	$0.00795^{+0.003}_{-0.003}$	2441	$0.00153^{+0.001}_{-0.00098}$	$0.0022^{+0.00098}_{-0.00099}$	3081	$t_{LLR}$	$0.00556^{+0.0031}_{-0.003}$	$0.00795^{+0.003}_{-0.003}$	2441	$0.00153^{+0.001}_{-0.00098}$	$0.0022^{+0.00098}_{-0.00099}$	3081
$t_{LLR}$	$0.00556^{+0.0031}_{-0.003}$	$0.00795^{+0.003}_{-0.003}$	2441	$0.00153^{+0.001}_{-0.00098}$	$0.0022^{+0.00098}_{-0.00099}$	3081	$\Sigma_{i \neq j}$ -deformation						
pow <sub>+</sub> -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)
$t_{SW}$	$0.01294^{+0.0037}_{-0.0048}$	$0.01819^{+0.0032}_{-0.0038}$	2698	$0.0046^{+0.0017}_{-0.0019}$	$0.00614^{+0.0016}_{-0.0017}$	642	$t_{\overline{KS}}$	$1.02831^{+0.015}_{-0.015}$	$1.04211^{+0.0046}_{-0.012}$	<b>2603</b>	$0.00602^{+0.002}_{-0.0024}$	$0.00806^{+0.0019}_{-0.0019}$	<b>459</b>
$t_{\overline{KS}}$	$1.02831^{+0.015}_{-0.015}$	$1.04211^{+0.0046}_{-0.012}$	<b>2603</b>	$0.00602^{+0.002}_{-0.0024}$	$0.00806^{+0.0019}_{-0.0019}$	<b>459</b>	$t_{SKS}$	$0.0152^{+0.0051}_{-0.0061}$	$0.0206^{+0.0049}_{-0.0052}$	2844	$0.00505^{+0.0017}_{-0.002}$	$0.00646^{+0.0016}_{-0.0017}$	747
$t_{SKS}$	$0.0152^{+0.0051}_{-0.0061}$	$0.0206^{+0.0049}_{-0.0052}$	2844	$0.00505^{+0.0017}_{-0.002}$	$0.00646^{+0.0016}_{-0.0017}$	747	$t_{FGD}$	<b><math>0.0025^{+0.00061}_{-0.0007}</math></b>	<b><math>0.00319^{+0.00052}_{-0.00049}</math></b>	5804	$0.00419^{+0.0019}_{-0.0018}$	$0.0054^{+0.0017}_{-0.0015}$	2765
$t_{FGD}$	<b><math>0.0025^{+0.00061}_{-0.0007}</math></b>	<b><math>0.00319^{+0.00052}_{-0.00049}</math></b>	5804	$0.00419^{+0.0019}_{-0.0018}$	$0.0054^{+0.0017}_{-0.0015}$	2765	$t_{MMD}$	$0.01319^{+0.0073}_{-0.0053}$	$0.01818^{+0.0067}_{-0.0053}$	11064	<b><math>0.00358^{+0.0018}_{-0.0012}</math></b>	<b><math>0.00483^{+0.0016}_{-0.0013}</math></b>	8839
$t_{MMD}$	$0.01319^{+0.0073}_{-0.0053}$	$0.01818^{+0.0067}_{-0.0053}$	11064	<b><math>0.00358^{+0.0018}_{-0.0012}</math></b>	<b><math>0.00483^{+0.0016}_{-0.0013}</math></b>	8839	$t_{LLR}$	$0.01503^{+0.0043}_{-0.0066}$	$0.01793^{+0.0044}_{-0.006}$	5998	$0.00042^{+0.00025}_{-0.00026}$	$0.00061^{+0.00025}_{-0.00025}$	2919
$t_{LLR}$	$0.01503^{+0.0043}_{-0.0066}$	$0.01793^{+0.0044}_{-0.006}$	5998	$0.00042^{+0.00025}_{-0.00026}$	$0.00061^{+0.00025}_{-0.00025}$	2919	$\mathcal{N}$ -deformation						
pow <sub>-</sub> -deformation							$\mathcal{U}$ -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)
$t_{SW}$	$0.00455^{+5}_{-0.0017}$	$0.00609^{+5}_{-0.0015}$	587	$0.28641^{+0.047}_{-0.065}$	$0.33654^{+0.037}_{-0.046}$	535	$t_{\overline{KS}}$	$0.00575^{+0.002}_{-0.0022}$	$0.00773^{+0.0018}_{-0.0019}$	<b>461</b>	$0.32182^{+0.055}_{-0.08}$	$0.3832^{+0.045}_{-0.054}$	<b>393</b>
$t_{\overline{KS}}$	$0.00575^{+0.002}_{-0.0022}$	$0.00773^{+0.0018}_{-0.0019}$	<b>461</b>	$0.32182^{+0.055}_{-0.08}$	$0.3832^{+0.045}_{-0.054}$	<b>393</b>	$t_{SKS}$	$0.00487^{+0.0017}_{-0.0019}$	$0.00632^{+0.0016}_{-0.0017}$	750	$0.28237^{+0.046}_{-0.066}$	$0.32811^{+0.038}_{-0.048}$	612
$t_{SKS}$	$0.00487^{+0.0017}_{-0.0019}$	$0.00632^{+0.0016}_{-0.0017}$	750	$0.28237^{+0.046}_{-0.066}$	$0.32811^{+0.038}_{-0.048}$	612	$t_{FGD}$	$0.00411^{+0.0017}_{-0.0015}$	$0.0054^{+0.0015}_{-0.0014}$	2758	<b><math>0.16992^{+0.02}_{-0.03}</math></b>	<b><math>0.1944^{+0.014}_{-0.018}</math></b>	2132
$t_{FGD}$	$0.00411^{+0.0017}_{-0.0015}$	$0.0054^{+0.0015}_{-0.0014}$	2758	<b><math>0.16992^{+0.02}_{-0.03}</math></b>	<b><math>0.1944^{+0.014}_{-0.018}</math></b>	2132	$t_{MMD}$	<b><math>0.00346^{+0.0019}_{-0.0014}</math></b>	<b><math>0.00477^{+0.0018}_{-0.0014}</math></b>	8990	$0.73852^{+0.086}_{-0.091}$	$0.85602^{+0.075}_{-0.062}$	5790
$t_{MMD}$	<b><math>0.00346^{+0.0019}_{-0.0014}</math></b>	<b><math>0.00477^{+0.0018}_{-0.0014}</math></b>	8990	$0.73852^{+0.086}_{-0.091}$	$0.85602^{+0.075}_{-0.062}$	5790	$t_{LLR}$	$0.00042^{+0.00025}_{-0.00026}$	$0.0006^{+0.00025}_{-0.00025}$	2930	-	-	-
$t_{LLR}$	$0.00042^{+0.00025}_{-0.00026}$	$0.0006^{+0.00025}_{-0.00025}$	2930	-	-	-	Timing						
$\mathcal{U}$ -deformation							Timing						
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)
$t_{SW}$	$0.49513^{+0.079}_{-0.11}$	$0.5818^{+0.063}_{-0.078}$	512	$0.49513^{+0.079}_{-0.11}$	$0.5818^{+0.063}_{-0.078}$	512	$t_{\overline{KS}}$	$0.55562^{+0.096}_{-0.14}$	$0.65585^{+0.083}_{-0.089}$	<b>378</b>	$0.55562^{+0.096}_{-0.14}$	$0.65585^{+0.083}_{-0.089}$	<b>127</b>
$t_{\overline{KS}}$	$0.55562^{+0.096}_{-0.14}$	$0.65585^{+0.083}_{-0.089}$	<b>378</b>	$0.55562^{+0.096}_{-0.14}$	$0.65585^{+0.083}_{-0.089}$	<b>127</b>	$t_{SKS}$	$0.48849^{+0.085}_{-0.11}$	$0.56476^{+0.072}_{-0.079}$	582	$0.48849^{+0.085}_{-0.11}$	$0.56476^{+0.072}_{-0.079}$	480
$t_{SKS}$	$0.48849^{+0.085}_{-0.11}$	$0.56476^{+0.072}_{-0.079}$	582	$0.48849^{+0.085}_{-0.11}$	$0.56476^{+0.072}_{-0.079}$	480	$t_{FGD}$	<b><math>0.2926^{+0.036}_{-0.05}</math></b>	<b><math>0.33697^{+0.025}_{-0.034}</math></b>	2042	<b><math>0.2926^{+0.036}_{-0.05}</math></b>	<b><math>0.33697^{+0.025}_{-0.034}</math></b>	3821
$t_{FGD}$	<b><math>0.2926^{+0.036}_{-0.05}</math></b>	<b><math>0.33697^{+0.025}_{-0.034}</math></b>	2042	<b><math>0.2926^{+0.036}_{-0.05}</math></b>	<b><math>0.33697^{+0.025}_{-0.034}</math></b>	3821	$t_{MMD}$	$1.28521^{+0.15}_{-0.17}$	$1.49004^{+0.11}_{-0.12}$	6502	$1.28521^{+0.15}_{-0.17}$	$1.49004^{+0.11}_{-0.12}$	13843
$t_{MMD}$	$1.28521^{+0.15}_{-0.17}$	$1.49004^{+0.11}_{-0.12}$	6502	$1.28521^{+0.15}_{-0.17}$	$1.49004^{+0.11}_{-0.12}$	13843	$t_{LLR}$	-	-	-	-	-	-
$t_{LLR}$	-	-	-	-	-	-	$t_{LLR}$	-	-	-	-	-	-