

**Scaled Particle features with  $n = m = 10^4$**

Statistic	$\mu$ -deformation			$\Sigma_{ii}$ -deformation		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)
$t_{SW}$	$0.03001^{+0.0061}_{-0.012}$	$0.03983^{+0.0059}_{-0.0068}$	<b>636</b>	$0.03556^{+0.013}_{-0.014}$	$0.04838^{+0.01}_{-0.012}$	<b>663</b>
$t_{\overline{KS}}$	<b><math>0.01913^{+0.0053}_{-0.0097}</math></b>	<b><math>0.02873^{+0.0044}_{-0.0066}</math></b>	772	$0.04819^{+0.016}_{-0.026}$	$0.06797^{+0.015}_{-0.016}$	871
$t_{SKS}$	$0.02745^{+0.0048}_{-0.011}$	$0.03644^{+0.0054}_{-0.0062}$	1583	$0.04382^{+0.021}_{-0.014}$	$0.0658^{+0.01}_{-0.016}$	1772
$t_{FGD}$	$0.03709^{+0.0078}_{-0.013}$	$0.04616^{+0.0054}_{-0.0098}$	2093	<b><math>0.03145^{+0.0096}_{-0.013}</math></b>	<b><math>0.0415^{+0.013}_{-0.0099}</math></b>	2163
$t_{MMD}$	$0.03985^{+0.0061}_{-0.016}$	$0.04959^{+0.0059}_{-0.008}$	1591	$0.03486^{+0.015}_{-0.014}$	$0.04702^{+0.0095}_{-0.011}$	2055
Statistic	$\Sigma_{i \neq j}$ -deformation			pow <sub>+</sub> -deformation		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow+}$	$t$ (s)
$t_{SW}$	$0.02924^{+0.012}_{-0.011}$	$0.04125^{+0.0093}_{-0.0071}$	<b>649</b>	$0.04091^{+0.016}_{-0.016}$	$0.0543^{+0.008}_{-0.013}$	<b>539</b>
$t_{\overline{KS}}$	$0.05825^{+0.024}_{-0.019}$	$0.08748^{+0.013}_{-0.015}$	969	<b><math>0.03145^{+0.0096}_{-0.017}</math></b>	$0.04437^{+0.01}_{-0.01}$	1171
$t_{SKS}$	$0.03005^{+0.015}_{-0.0092}$	$0.04593^{+0.012}_{-0.0078}$	2024	$0.06612^{+0.024}_{-0.023}$	$0.09525^{+0.013}_{-0.016}$	2062
$t_{FGD}$	<b><math>0.0032^{+0.00083}_{-0.00095}</math></b>	<b><math>0.00394^{+0.00094}_{-0.00053}</math></b>	2647	$0.03323^{+0.015}_{-0.014}$	<b><math>0.04254^{+0.012}_{-0.01}</math></b>	2277
$t_{MMD}$	$0.02155^{+0.0099}_{-0.0096}$	$0.02631^{+0.01}_{-0.0063}$	2305	$0.04071^{+0.016}_{-0.016}$	$0.0537^{+0.017}_{-0.013}$	2231
Statistic	pow <sub>-</sub> -deformation			$\mathcal{N}$ -deformation		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow-}$	$t$ (s)	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{N}}$	$t$ (s)
$t_{SW}$	$0.04382^{+0.021}_{-0.017}$	$0.0618^{+0.014}_{-0.018}$	<b>689</b>	$0.16911^{+0.026}_{-0.035}$	$0.18687^{+0.03}_{-0.02}$	<b>397</b>
$t_{\overline{KS}}$	<b><math>0.03145^{+0.0096}_{-0.018}</math></b>	<b><math>0.0415^{+0.013}_{-0.0096}</math></b>	1316	$0.11951^{+0.025}_{-0.034}$	$0.14874^{+0.018}_{-0.02}$	1196
$t_{SKS}$	$0.07149^{+0.026}_{-0.026}$	$0.10084^{+0.023}_{-0.017}$	2143	$0.15558^{+0.04}_{-0.029}$	$0.19363^{+0.023}_{-0.025}$	1868
$t_{FGD}$	$0.03556^{+0.013}_{-0.012}$	$0.04553^{+0.013}_{-0.013}$	2220	<b><math>0.07893^{+0.011}_{-0.015}</math></b>	<b><math>0.0886^{+0.012}_{-0.0093}</math></b>	1870
$t_{MMD}$	$0.04497^{+0.023}_{-0.018}$	$0.05933^{+0.018}_{-0.014}$	2247	$0.41065^{+0.042}_{-0.05}$	$0.47533^{+0.05}_{-0.043}$	1844
Statistic	$\mathcal{U}$ -deformation			Timing		
	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{U}}$	$t$ (s)	$t^{\text{null}}$ (s)		
$t_{SW}$	$0.28696^{+0.041}_{-0.059}$	$0.31709^{+0.05}_{-0.033}$	<b>373</b>	<b>139</b>		
$t_{\overline{KS}}$	$0.1977^{+0.029}_{-0.055}$	$0.24605^{+0.029}_{-0.032}$	1238	173		
$t_{SKS}$	$0.28696^{+0.041}_{-0.066}$	$0.33718^{+0.03}_{-0.043}$	1817	402		
$t_{FGD}$	<b><math>0.13593^{+0.016}_{-0.025}</math></b>	<b><math>0.15378^{+0.02}_{-0.016}</math></b>	1874	651		
$t_{MMD}$	$0.69962^{+0.082}_{-0.086}$	$0.8098^{+0.086}_{-0.074}$	1768	368		
$t_{LLR}$	-	-	-	-		