

**Particle features with  $n = m = 2 \cdot 10^4$**

$\mu$ -deformation							$\Sigma_{ii}$ -deformation						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)		$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)		$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)		
$t_{SW}$	$0.03755^{+0.019}_{-0.018}$	$0.06003^{+0.017}_{-0.019}$	<b>1152</b>		$0.04347^{+0.017}_{-0.019}$	$0.06373^{+0.016}_{-0.016}$	<b>1126</b>		$0.04347^{+0.017}_{-0.019}$	$0.06373^{+0.016}_{-0.016}$	<b>1126</b>		
$t_{\overline{KS}}$	<b><math>0.00993^{+0.0052}_{-0.0078}</math></b>	<b><math>0.01668^{+0.0052}_{-0.0032}</math></b>	1777		<b><math>0.02465^{+0.016}_{-0.019}</math></b>	<b><math>0.03767^{+0.017}_{-0.0092}</math></b>	2402		<b><math>0.02465^{+0.016}_{-0.019}</math></b>	<b><math>0.03767^{+0.017}_{-0.0092}</math></b>	2402		
$t_{SKS}$	$0.02531^{+0.0089}_{-0.01}$	$0.03801^{+0.0058}_{-0.0072}$	3266		$0.04334^{+0.0094}_{-0.017}$	$0.05753^{+0.0085}_{-0.014}$	3575		$0.04334^{+0.0094}_{-0.017}$	$0.05753^{+0.0085}_{-0.014}$	3575		
$t_{FGD}$	$0.07038^{+0.025}_{-0.031}$	$0.10569^{+0.016}_{-0.021}$	5425		$0.06198^{+0.033}_{-0.024}$	$0.08926^{+0.024}_{-0.024}$	5291		$0.06198^{+0.033}_{-0.024}$	$0.08926^{+0.024}_{-0.024}$	5291		
$t_{MMD}$	$0.21075^{+0.19}_{-0.096}$	$0.31926^{+0.12}_{-0.11}$	3912		$0.11714^{+0.072}_{-0.054}$	$0.15051^{+0.064}_{-0.057}$	4844		$0.11714^{+0.072}_{-0.054}$	$0.15051^{+0.064}_{-0.057}$	4844		
$\Sigma_{i \neq j}$ -deformation							pow <sub>+</sub> -deformation						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}$	$t$ (s)		$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow+}$	$t$ (s)		$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow+}$	$t$ (s)		
$t_{SW}$	$0.07169^{+0.026}_{-0.028}$	$0.11253^{+0.019}_{-0.021}$	<b>2519</b>		$0.04032^{+0.016}_{-0.017}$	$0.05911^{+0.015}_{-0.017}$	<b>1172</b>		$0.04032^{+0.016}_{-0.017}$	$0.05911^{+0.015}_{-0.017}$	<b>1172</b>		
$t_{\overline{KS}}$	$1.03785^{+0.009}_{-0.024}$	$1.04608^{+0.0082}_{-0.016}$	3547		<b><math>0.01587^{+0.0085}_{-0.013}</math></b>	<b><math>0.02425^{+0.011}_{-0.0046}</math></b>	3776		<b><math>0.01587^{+0.0085}_{-0.013}</math></b>	<b><math>0.02425^{+0.011}_{-0.0046}</math></b>	3776		
$t_{SKS}$	$0.06763^{+0.03}_{-0.026}$	$0.09915^{+0.025}_{-0.025}$	8887		$0.05979^{+0.03}_{-0.024}$	$0.08436^{+0.032}_{-0.021}$	4543		$0.05979^{+0.03}_{-0.024}$	$0.08436^{+0.032}_{-0.021}$	4543		
$t_{FGD}$	<b><math>0.04432^{+0.01}_{-0.013}</math></b>	<b><math>0.06957^{+0.011}_{-0.012}</math></b>	9665		$0.03326^{+0.03}_{-0.014}$	$0.04854^{+0.028}_{-0.012}$	5966		$0.03326^{+0.03}_{-0.014}$	$0.04854^{+0.028}_{-0.012}$	5966		
$t_{MMD}$	$0.41314^{+0.1}_{-0.12}$	$0.59522^{+0.083}_{-0.13}$	33606		$0.03172^{+1.9}_{-0.016}$	$0.03834^{+1.9}_{-0.01}$	5648		$0.03172^{+1.9}_{-0.016}$	$0.03834^{+1.9}_{-0.01}$	5648		
pow <sub>-</sub> -deformation							$\mathcal{N}$ -deformation						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{pow-}$	$t$ (s)		$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{N}}$	$t$ (s)		$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{N}}$	$t$ (s)		
$t_{SW}$	$0.04099^{+0.02}_{-0.02}$	$0.05783^{+0.022}_{-0.013}$	<b>1141</b>		$0.1312^{+0.033}_{-0.036}$	$0.17415^{+0.026}_{-0.035}$	<b>960</b>		$0.1312^{+0.033}_{-0.036}$	$0.17415^{+0.026}_{-0.035}$	<b>960</b>		
$t_{\overline{KS}}$	<b><math>0.01675^{+0.0096}_{-0.013}</math></b>	<b><math>0.0256^{+0.011}_{-0.0076}</math></b>	4437		<b><math>0.09466^{+0.019}_{-0.023}</math></b>	<b><math>0.10855^{+0.023}_{-0.021}</math></b>	3808		<b><math>0.09466^{+0.019}_{-0.023}</math></b>	<b><math>0.10855^{+0.023}_{-0.021}</math></b>	3808		
$t_{SKS}$	$0.05825^{+0.024}_{-0.028}$	$0.07685^{+0.024}_{-0.022}$	5427		$0.10894^{+0.012}_{-0.02}$	$0.13563^{+0.0038}_{-0.017}$	5278		$0.10894^{+0.012}_{-0.02}$	$0.13563^{+0.0038}_{-0.017}$	5278		
$t_{FGD}$	$0.03691^{+0.028}_{-0.019}$	$0.05501^{+0.026}_{-0.017}$	5290		$0.1818^{+0.04}_{-0.037}$	$0.22626^{+0.027}_{-0.036}$	4748		$0.1818^{+0.04}_{-0.037}$	$0.22626^{+0.027}_{-0.036}$	4748		
$t_{MMD}$	$0.03173^{+0.029}_{-0.015}$	$0.04728^{+0.023}_{-0.018}$	6602		$0.38994^{+0.15}_{-0.071}$	$0.49845^{+0.096}_{-0.12}$	6103		$0.38994^{+0.15}_{-0.071}$	$0.49845^{+0.096}_{-0.12}$	6103		
$\mathcal{U}$ -deformation							Timing						
Statistic	$\epsilon_{95\%CL}$	$\epsilon_{99\%CL}^{\mathcal{U}}$	$t$ (s)		$t^{\text{null}}$ (s)								
$t_{SW}$	$0.2237^{+0.05}_{-0.029}$	$0.29694^{+0.044}_{-0.038}$	<b>876</b>		<b>303</b>								
$t_{\overline{KS}}$	<b><math>0.1547^{+0.025}_{-0.043}</math></b>	<b><math>0.19254^{+0.023}_{-0.046}</math></b>	4086		386								
$t_{SKS}$	$0.19209^{+0.019}_{-0.044}$	$0.22571^{+0.02}_{-0.0097}$	5294		958								
$t_{FGD}$	$0.31601^{+0.067}_{-0.064}$	$0.3933^{+0.046}_{-0.062}$	4219		1462								
$t_{MMD}$	$0.73168^{+0.25}_{-0.19}$	$0.85127^{+0.23}_{-0.21}$	6154		943								