	S	caled Jet featur	es with	$n = m = 10^4$		
	μ -d	Σ_{ii} -deformation				
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\% ext{CL}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)
$t_{ m SW}$	$0.03454^{+0.015}_{-0.0089}$	$0.04478^{+0.014}_{-0.011}$	973	$0.05325^{+0.012}_{-0.024}$	$0.06318^{+0.014}_{-0.012}$	1017
$t_{\overline{ ext{KS}}}$	$0.03618^{+0.011}_{-0.011}$	$0.04483^{+0.011}_{-0.011}$	850	$0.049^{+0.016}_{-0.014}$	$0.06199^{+0.016}_{-0.017}$ $0.06948^{+0.017}_{-0.019}$	1193
$t_{ m SKS}$	$0.02531^{+0.0088}_{-0.0088}$	$0.03294^{+0.01}_{-0.0093}$	2419	$\begin{array}{c} -0.014 \\ 0.05413 \begin{array}{c} +0.016 \\ -0.023 \\ 0.04367 \begin{array}{c} +0.018 \\ -0.02 \\ \end{array} \end{array}$	$0.06948^{+0.017}_{-0.019}$	2718
$t_{ m FGD}$	$0.04203^{+0.017}_{-0.014}$	$0.05825^{+0.013}_{-0.011}$	1768	$igg \ 0.04367^{+0.018}_{-0.02}$	$0.05731^{+0.018}_{-0.015}$	2279
$t_{ m MMD}$	$0.14557^{+0.033}_{-0.05}$	$0.1927^{+0.026}_{-0.034}$	2159	$0.07112^{+0.032}_{-0.03}$	$0.0925^{+0.028}_{-0.028}$	3626
$\Sigma_{i \neq j}$ -deformation				pow_+ -deformation		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}$	t (s)	$\epsilon_{95\% ext{CL}}$	$\epsilon_{99\%\mathrm{CL}}^{\mathrm{pow}_{+}}$	t (s)
$t_{ m SW}$	$0.05835^{+0.022}_{-0.011}$	$0.08382^{+0.015}_{-0.022}$	860	$0.0551^{+0.022}_{-0.015}$	$0.07143^{+0.022}_{-0.019}$	967
$t_{\overline{ ext{KS}}}$	$1.04601^{+0.018}_{-0.019}$	$1.06439_{-0.014}^{+0.011}$	776	$0.05339^{+0.021}_{-0.021}$	$0.06245^{+0.028}_{-0.017}$	1732
$t_{ m SKS}$	$0.06967^{+0.024}_{-0.022}$	$1.06439_{-0.014}^{+0.011} \\ 0.09332_{-0.017}^{+0.024}$	2787	$0.09036^{+0.039}_{-0.027}$	$0.06245^{+0.028}_{-0.017} \ 0.12493^{+0.028}_{-0.035}$	3154
$t_{ m FGD}$	$0.00678^{+0.0023}_{-0.0018}$	$0.00996^{+0.0019}_{-0.0028}$	2132	$0.04473^{+0.028}_{-0.019}$	$0.06202^{+0.023}_{-0.021}$	2120
$t_{ m MMD}$	$0.0926^{+0.049}_{-0.033}$	$0.12371^{+0.046}_{-0.035}$	2701	$0.04304_{-0.023}^{+1.9}$	$0.05234_{-0.019}^{+1.9}$	4893
$pow\deformation$				$\mathcal{N} ext{-} ext{deformation}$		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}^{\mathrm{pow}_{-}}$	t (s)	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}^{\mathcal{N}}$	t (s)
$t_{ m SW}$	$0.06251^{+0.023}_{-0.019}$	$0.07732^{+0.022}_{-0.02}$	972	$0.1954^{+0.026}_{-0.048}$	$0.21418^{+0.026}_{-0.024}$	894
$t_{\overline{ ext{KS}}}$	$0.04649^{+0.019}_{-0.013}$	$0.0602^{+0.019}_{-0.016}$	1929	$0.17245_{-0.036}^{+0.018}$	$0.19003^{+0.021}_{-0.019}$	1945
$t_{ m SKS}$	$0.08917^{+0.028}_{-0.025}$	$0.11446^{+0.028}_{-0.031}$	3404	$0.15303^{+0.033}_{-0.044}$	$0.19176^{+0.022}_{-0.047}$	3597
$t_{ m FGD}$	$0.0488^{+0.029}_{-0.026}$	$0.06761^{+0.029}_{-0.024}$	1503	$\left[\begin{array}{c} 0.11564^{+0.016}_{-0.018} \end{array}\right]$	$0.13698^{+0.012}_{-0.014} \\$	1659
$t_{ m MMD}$	$0.04774_{-0.019}^{+0.03}$	$0.06826^{+0.03}_{-0.022}$	5189	$0.38281^{+0.061}_{-0.079}$	$0.43607^{+0.057}_{-0.055}$	4053
$\mathcal{U} ext{-} ext{deformation}$				Timing		
Statistic	$\epsilon_{95\%\mathrm{CL}}$	$\epsilon_{99\%\mathrm{CL}}^{\mathcal{U}}$	t (s)	t^{null} (s)		
$t_{ m SW}$	$ \begin{array}{ c c c c c c }\hline 0.33748^{+0.04}_{-0.082} \\ 0.28304^{+0.032}_{-0.047} \\ \end{array} $	$\begin{array}{c} 0.36991^{+0.044}_{-0.042} \\ 0.32381^{+0.023}_{-0.032} \end{array}$	878	145		
$t_{\overline{ ext{KS}}}$	$0.28304_{-0.047}^{+0.032}$	$0.32381^{+0.023}_{-0.032}$	2040	145		
$t_{ m SKS}$	$0.26284^{+0.06}_{-0.076}$	$0.33111^{+0.04}_{-0.082}$	3983	418		
$t_{ m FGD}$	$0.20008^{+0.026}_{-0.036}$	$0.23742^{+0.021}_{-0.026}$	1960	248		
$t_{ m MMD}$	$0.67348^{+0.11}_{-0.14}$	$0.75865^{+0.091}_{-0.1}$	5241	386		
$t_{ m LLR}$	-	-	-	-		