**Scaled Particle features with $\mathbf{n = m = 2 \cdot 10^4}$**

| Statistic | $\mu$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) | $\Sigma_{ii}$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) |
|---|---|---|---|---|---|---|
| $t_{\mathrm{SW}}$ | $0.02051^{+0.0059}_{-0.0073}$ | $0.02921^{+0.0058}_{-0.003}$ | **1482** | $0.02531^{+0.0089}_{-0.01}$ | $0.03339^{+0.01}_{-0.0057}$ | **1030** |
| $t_{\overline{\mathrm{KS}}}$ | $\mathbf{0.00993^{+0.0052}_{-0.0078}}$ | $\mathbf{0.01668^{+0.0052}_{-0.0032}}$ | 1875 | $0.02465^{+0.016}_{-0.019}$ | $0.03767^{+0.017}_{-0.0092}$ | 2464 |
| $t_{\mathrm{SKS}}$ | $0.01919^{+0.0052}_{-0.0065}$ | $0.02798^{+0.0013}_{-0.0067}$ | 3630 | $0.03319^{+0.0078}_{-0.013}$ | $0.04406^{+0.0065}_{-0.014}$ | 4096 |
| $t_{\mathrm{FGD}}$ | $0.02609^{+0.0054}_{-0.011}$ | $0.03056^{+0.0057}_{-0.0049}$ | 4986 | $\mathbf{0.02305^{+0.0077}_{-0.0093}}$ | $\mathbf{0.02833^{+0.0068}_{-0.0078}}$ | 6023 |
| $t_{\mathrm{MMD}}$ | $0.028^{+0.0042}_{-0.011}$ | $0.03484^{+0.0041}_{-0.0056}$ | 3875 | $0.02671^{+0.011}_{-0.011}$ | $0.03206^{+0.012}_{-0.0088}$ | 4796 |
| $t_{\mathrm{NPLM}}$ (red) | $0.00245^{+0.00065}_{-0.00083}$ | $0.00294^{+0.0006}_{-0.00061}$ | 43949 | $0.00711^{+0.0022}_{-0.0028}$ | $0.00866^{+0.0017}_{-0.0019}$ | 41263 |
| $t_{\mathrm{NPLM}}$ (blue) | $0.00232^{+0.00065}_{-0.00078}$ | $0.00289^{+0.00052}_{-...}$ | 34958 | $0.01154^{+0.0032}_{-0.0045}$ | $0.0142^{+0.0027}_{-0.0031}$ | 31575 |
| $t_{\mathrm{NPLM}}$ (green) | $0.00271^{+0.00075}_{-0.001}$ | $0.00311^{+0.00067}_{-0.00089}$ | 111013 | $0.00566^{+0.0017}_{-0.0022}$ | $0.00665^{+0.0017}_{-0.0021}$ | 112034 |

| Statistic | $\Sigma_{i\neq j}$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) | $\mathrm{pow}_+$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) |
|---|---|---|---|---|---|---|
| $t_{\mathrm{SW}}$ | $0.05216^{+0.0084}_{-0.021}$ | $0.06924^{+0.01}_{-0.012}$ | **2288** | $0.03068^{+0.01}_{-0.014}$ | $0.03771^{+0.009}_{-0.0064}$ | **968** |
| $t_{\overline{\mathrm{KS}}}$ | $1.03785^{+0.009}_{-0.024}$ | $1.04608^{+0.0082}_{-0.016}$ | 2734 | $\mathbf{0.01587^{+0.0085}_{-0.013}}$ | $\mathbf{0.02425^{+0.011}_{-0.0046}}$ | 3768 |
| $t_{\mathrm{SKS}}$ | $0.06232^{+0.014}_{-0.028}$ | $0.0766^{+0.018}_{-0.0079}$ | 7333 | $0.04819^{+0.016}_{-0.017}$ | $0.06357^{+0.02}_{-0.01}$ | 5176 |
| $t_{\mathrm{FGD}}$ | $\mathbf{0.00395^{+0.0012}_{-0.0014}}$ | $\mathbf{0.00521^{+0.0016}_{-0.0012}}$ | 10771 | $0.0243^{+0.0079}_{-0.0098}$ | $0.02987^{+0.0072}_{-0.0082}$ | 4923 |
| $t_{\mathrm{MMD}}$ | $0.03602^{+0.013}_{-0.015}$ | $0.04256^{+0.014}_{-0.012}$ | 41440 | $0.03037^{+0.011}_{-0.012}$ | $0.03734^{+0.0089}_{-0.011}$ | 5925 |
| $t_{\mathrm{NPLM}}$ (red) | $0.0161^{+0.0043}_{-0.0063}$ | $0.02015^{+0.0035}_{-0.0042}$ | 32895 | $0.02773^{+0.01}_{-0.012}$ | $0.0342^{+0.011}_{-0.0099}$ | 31569 |
| $t_{\mathrm{NPLM}}$ (blue) | $0.01727^{+0.0042}_{-0.0083}$ | $0.02068^{+0.0059}_{-0.0045}$ | 31422 | $0.02585^{+0.0094}_{-0.011}$ | $0.03368^{+0.0081}_{-0.012}$ | 29617 |
| $t_{\mathrm{NPLM}}$ (green) | $0.00567^{+0.0029}_{-0.0029}$ | $0.0073^{+0.0028}_{-0.0029}$ | 110945 | $0.01552^{+0.0085}_{-0.0093}$ | $0.01998^{+0.0077}_{-0.0073}$ | 114774 |

| Statistic | $\mathrm{pow}_-$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) | $\mathcal{N}$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) |
|---|---|---|---|---|---|---|
| $t_{\mathrm{SW}}$ | $0.03574^{+0.0092}_{-0.016}$ | $0.04394^{+0.011}_{-0.011}$ | **973** | $0.13338^{+0.031}_{-0.023}$ | $0.15296^{+0.033}_{-0.0054}$ | **787** |
| $t_{\overline{\mathrm{KS}}}$ | $\mathbf{0.01675^{+0.0096}_{-0.013}}$ | $\mathbf{0.0256^{+0.011}_{-0.0076}}$ | 4374 | $0.09466^{+0.019}_{-0.023}$ | $0.10855^{+0.023}_{-0.021}$ | 3825 |
| $t_{\mathrm{SKS}}$ | $0.05724^{+0.011}_{-0.025}$ | $0.07036^{+0.017}_{-0.0072}$ | 5169 | $0.13338^{+0.031}_{-0.023}$ | $0.15296^{+0.033}_{-0.016}$ | 4479 |
| $t_{\mathrm{FGD}}$ | $0.02527^{+0.0089}_{-0.011}$ | $0.03169^{+0.0083}_{-0.0076}$ | 4913 | $\mathbf{0.06571^{+0.0056}_{-0.012}}$ | $\mathbf{0.07484^{+0.003}_{-0.011}}$ | 4537 |
| $t_{\mathrm{MMD}}$ | $0.03366^{+0.01}_{-0.015}$ | $0.04192^{+0.011}_{-0.01}$ | 6008 | $0.35498^{+0.028}_{-0.049}$ | $0.40428^{+0.016}_{-0.043}$ | 4996 |
| $t_{\mathrm{NPLM}}$ (red) | $0.0566^{+0.011}_{-0.014}$ | $0.06276^{+0.011}_{-0.0081}$ | 24114 | $0.11454^{+0.019}_{-0.027}$ | $0.13012^{+0.013}_{-0.017}$ | 20278 |
| $t_{\mathrm{NPLM}}$ (blue) | $0.05875^{+0.0094}_{-0.014}$ | $0.06514^{+0.011}_{-0.0092}$ | 26972 | $0.11419^{+0.019}_{-0.041}$ | $0.13021^{+0.017}_{-0.022}$ | 25934 |
| $t_{\mathrm{NPLM}}$ (green) | $0.10796^{+0.0097}_{-0.01}$ | $0.11313^{+0.0076}_{-0.01}$ | 79016 | $0.0539^{+0.0093}_{-0.016}$ | $0.06008^{+0.0066}_{-0.012}$ | 87358 |

| Statistic | $\mathcal{U}$-deformation $\epsilon_{95\%\mathrm{CL}}$ | $\epsilon_{99\%\mathrm{CL}}$ | $t$ (s) | Timing $t^{\mathrm{null}}$ (s) |
|---|---|---|---|---|
| $t_{\mathrm{SW}}$ | $0.22562^{+0.048}_{-0.041}$ | $0.2808^{+0.033}_{-0.036}$ | **765** | **269** |
| $t_{\overline{\mathrm{KS}}}$ | $0.1547^{+0.025}_{-0.043}$ | $0.19254^{+0.023}_{-0.046}$ | 4034 | 353 |
| $t_{\mathrm{SKS}}$ | $0.22562^{+0.048}_{-0.041}$ | $0.2808^{+0.033}_{-0.054}$ | 4777 | 857 |
| $t_{\mathrm{FGD}}$ | $\mathbf{0.11465^{+0.0084}_{-0.027}}$ | $\mathbf{0.11995^{+0.016}_{-0.004}}$ | 4174 | 1336 |
| $t_{\mathrm{MMD}}$ | $0.61572^{+0.041}_{-0.1}$ | $0.70123^{+0.029}_{-0.081}$ | 2536 | 862 |
| $t_{\mathrm{NPLM}}$ (red) | $0.19868^{+0.033}_{-0.047}$ | $0.2244^{+0.021}_{-0.029}$ | 19158 | 4583 |
| $t_{\mathrm{NPLM}}$ (blue) | $0.19517^{+0.036}_{-0.068}$ | $0.22609^{+0.026}_{-0.038}$ | 23624 | 6158 |
| $t_{\mathrm{NPLM}}$ (green) | $0.09551^{+0.014}_{-0.029}$ | $0.10364^{+0.014}_{-0.019}$ | 84708 | 18270 |