```
MC simulation repeated 1000 times for 10 ions at an angle of 0 degrees
phi_MC:       0.0000
phi_x1D_def: -0.0019 +/- 0.0623 (mean unc. 0.0565) @ skew 0.18
phi_x2D_def: -0.0020 +/- 0.0640 (mean unc. 0.0753) @ skew 0.18
MC simulation repeated 1000 times for 10 ions at an angle of 4 degrees
phi_MC:       0.0873
phi_x1D_def:  0.0890 +/- 0.0611 (mean unc. 0.0573) @ skew -0.08
phi_x2D_def:  0.0913 +/- 0.0625 (mean unc. 0.0757) @ skew -0.06
MC simulation repeated 1000 times for 10 ions at an angle of 10 degrees
phi_MC:       0.1745
phi_x1D_def:  0.1682 +/- 0.0598 (mean unc. 0.0554) @ skew -0.05
phi_x2D_def:  0.1724 +/- 0.0607 (mean unc. 0.0736) @ skew -0.06
MC simulation repeated 1000 times for 10 ions at an angle of 15 degrees
phi_MC:       0.2618
phi_x1D_def:  0.2553 +/- 0.0611 (mean unc. 0.0537) @ skew -0.11
phi_x2D_def:  0.2606 +/- 0.0616 (mean unc. 0.0715) @ skew -0.14
MC simulation repeated 1000 times for 10 ions at an angle of 20 degrees
phi_MC:       0.3491
phi_x1D_def:  0.3373 +/- 0.0563 (mean unc. 0.0523) @ skew 0.01
phi_x2D_def:  0.3445 +/- 0.0567 (mean unc. 0.0695) @ skew -0.02
MC simulation repeated 1000 times for 10 ions at an angle of 25 degrees
phi_MC:       0.4363
phi_x1D_def:  0.4285 +/- 0.0537 (mean unc. 0.0493) @ skew -0.05
phi_x2D_def:  0.4366 +/- 0.0540 (mean unc. 0.0659) @ skew -0.07
MC simulation repeated 1000 times for 10 ions at an angle of 30 degrees
phi_MC:       0.5236
phi_x1D_def:  0.5143 +/- 0.0480 (mean unc. 0.0459) @ skew -0.10
phi_x2D_def:  0.5225 +/- 0.0480 (mean unc. 0.0617) @ skew -0.12
MC simulation repeated 1000 times for 10 ions at an angle of 35 degrees
phi_MC:       0.6109
phi_x1D_def:  0.6038 +/- 0.0455 (mean unc. 0.0415) @ skew -0.20
phi_x2D_def:  0.6121 +/- 0.0447 (mean unc. 0.0568) @ skew -0.17
MC simulation repeated 1000 times for 10 ions at an angle of 40 degrees
phi_MC:       0.6981
phi_x1D_def:  0.6890 +/- 0.0423 (mean unc. 0.0373) @ skew -0.13
phi_x2D_def:  0.6966 +/- 0.0419 (mean unc. 0.0518) @ skew -0.12
MC simulation repeated 1000 times for 10 ions at an angle of 44 degrees
phi_MC:       0.7854
phi_x1D_def:  0.7769 +/- 0.0368 (mean unc. 0.0333) @ skew -0.14
phi_x2D_def:  0.7836 +/- 0.0362 (mean unc. 0.0468) @ skew -0.13
MC simulation repeated 1000 times for 100 ions at an angle of 0 degrees
phi_MC:       0.0000
phi_x1D_def: -0.0010 +/- 0.0187 (mean unc. 0.0194) @ skew -0.07
phi_x2D_def: -0.0009 +/- 0.0192 (mean unc. 0.0445) @ skew -0.08
MC simulation repeated 1000 times for 100 ions at an angle of 4 degrees
phi_MC:       0.0873
phi_x1D_def:  0.0841 +/- 0.0203 (mean unc. 0.0194) @ skew -0.03
phi_x2D_def:  0.0862 +/- 0.0208 (mean unc. 0.0443) @ skew -0.02
MC simulation repeated 1000 times for 100 ions at an angle of 10 degrees
phi_MC:       0.1745
phi_x1D_def:  0.1691 +/- 0.0188 (mean unc. 0.0190) @ skew -0.02
phi_x2D_def:  0.1736 +/- 0.0191 (mean unc. 0.0435) @ skew -0.03
MC simulation repeated 1000 times for 100 ions at an angle of 15 degrees
phi_MC:       0.2618
phi_x1D_def:  0.2553 +/- 0.0190 (mean unc. 0.0184) @ skew 0.05
phi_x2D_def:  0.2616 +/- 0.0195 (mean unc. 0.0423) @ skew 0.05
MC simulation repeated 1000 times for 100 ions at an angle of 20 degrees
phi_MC:       0.3491
phi_x1D_def:  0.3414 +/- 0.0183 (mean unc. 0.0177) @ skew -0.01
phi_x2D_def:  0.3494 +/- 0.0185 (mean unc. 0.0406) @ skew -0.01
MC simulation repeated 1000 times for 100 ions at an angle of 25 degrees
phi_MC:       0.4363
phi_x1D_def:  0.4268 +/- 0.0169 (mean unc. 0.0167) @ skew -0.01
phi_x2D_def:  0.4357 +/- 0.0169 (mean unc. 0.0386) @ skew 0.00
MC simulation repeated 1000 times for 100 ions at an angle of 30 degrees
phi_MC:       0.5236
phi_x1D_def:  0.5141 +/- 0.0165 (mean unc. 0.0156) @ skew -0.05
phi_x2D_def:  0.5234 +/- 0.0164 (mean unc. 0.0361) @ skew -0.05
MC simulation repeated 1000 times for 100 ions at an angle of 35 degrees
phi_MC:       0.6109
phi_x1D_def:  0.6015 +/- 0.0150 (mean unc. 0.0142) @ skew -0.19
phi_x2D_def:  0.6107 +/- 0.0148 (mean unc. 0.0333) @ skew -0.20
MC simulation repeated 1000 times for 100 ions at an angle of 40 degrees
phi_MC:       0.6981
phi_x1D_def:  0.6900 +/- 0.0127 (mean unc. 0.0128) @ skew -0.12
phi_x2D_def:  0.6984 +/- 0.0125 (mean unc. 0.0304) @ skew -0.14
MC simulation repeated 1000 times for 100 ions at an angle of 44 degrees
phi_MC:       0.7854
phi_x1D_def:  0.7776 +/- 0.0115 (mean unc. 0.0113) @ skew -0.07
phi_x2D_def:  0.7850 +/- 0.0113 (mean unc. 0.0272) @ skew -0.08
MC simulation repeated 1000 times for 1000 ions at an angle of 0 degrees
phi_MC:       0.0000
phi_x1D_def:  0.0003 +/- 0.0060 (mean unc. 0.0062) @ skew 0.18
phi_x2D_def:  0.0003 +/- 0.0061 (mean unc. 0.0251) @ skew 0.15
MC simulation repeated 1000 times for 1000 ions at an angle of 4 degrees
phi_MC:       0.0873
phi_x1D_def:  0.0851 +/- 0.0061 (mean unc. 0.0061) @ skew 0.09
phi_x2D_def:  0.0875 +/- 0.0063 (mean unc. 0.0250) @ skew 0.06
MC simulation repeated 1000 times for 1000 ions at an angle of 10 degrees
phi_MC:       0.1745
phi_x1D_def:  0.1701 +/- 0.0059 (mean unc. 0.0060) @ skew 0.07
phi_x2D_def:  0.1747 +/- 0.0060 (mean unc. 0.0246) @ skew 0.05
MC simulation repeated 1000 times for 1000 ions at an angle of 15 degrees
phi_MC:       0.2618
phi_x1D_def:  0.2553 +/- 0.0057 (mean unc. 0.0059) @ skew -0.10
phi_x2D_def:  0.2619 +/- 0.0058 (mean unc. 0.0239) @ skew -0.11
MC simulation repeated 1000 times for 1000 ions at an angle of 20 degrees
phi_MC:       0.3491
phi_x1D_def:  0.3411 +/- 0.0054 (mean unc. 0.0056) @ skew -0.03
phi_x2D_def:  0.3491 +/- 0.0054 (mean unc. 0.0229) @ skew -0.03
MC simulation repeated 1000 times for 1000 ions at an angle of 25 degrees
phi_MC:       0.4363
phi_x1D_def:  0.4272 +/- 0.0053 (mean unc. 0.0053) @ skew 0.07
phi_x2D_def:  0.4362 +/- 0.0053 (mean unc. 0.0217) @ skew 0.07
MC simulation repeated 1000 times for 1000 ions at an angle of 30 degrees
phi_MC:       0.5236
phi_x1D_def:  0.5143 +/- 0.0049 (mean unc. 0.0050) @ skew 0.01
phi_x2D_def:  0.5237 +/- 0.0049 (mean unc. 0.0204) @ skew -0.00
MC simulation repeated 1000 times for 1000 ions at an angle of 35 degrees
phi_MC:       0.6109
phi_x1D_def:  0.6015 +/- 0.0044 (mean unc. 0.0045) @ skew -0.12
phi_x2D_def:  0.6107 +/- 0.0043 (mean unc. 0.0188) @ skew -0.12
MC simulation repeated 1000 times for 1000 ions at an angle of 40 degrees
phi_MC:       0.6981
phi_x1D_def:  0.6896 +/- 0.0041 (mean unc. 0.0041) @ skew 0.04
phi_x2D_def:  0.6982 +/- 0.0040 (mean unc. 0.0172) @ skew 0.05
MC simulation repeated 1000 times for 1000 ions at an angle of 44 degrees
phi_MC:       0.7854
phi_x1D_def:  0.7779 +/- 0.0035 (mean unc. 0.0036) @ skew 0.14
phi_x2D_def:  0.7854 +/- 0.0035 (mean unc. 0.0154) @ skew 0.13
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	n_data	angle	mc	phi2D	phi2D_unc	phi1D	phi1D_unc	phi1D_std
0	10	0.0	0.000000	-0.002049	0.075280	-0.001867	0.056516	0.062335
1	10	5.0	0.087266	0.091293	0.075706	0.088958	0.057287	0.061124
2	10	10.0	0.174533	0.172351	0.073642	0.168204	0.055390	0.059829
3	10	15.0	0.261799	0.260626	0.071515	0.255310	0.053716	0.061109
4	10	20.0	0.349066	0.344493	0.069503	0.337272	0.052290	0.056272
5	10	25.0	0.436332	0.436614	0.065861	0.428500	0.049275	0.053729
6	10	30.0	0.523599	0.522539	0.061671	0.514277	0.045865	0.047999
7	10	35.0	0.610865	0.612078	0.056777	0.603825	0.041525	0.045475
8	10	40.0	0.698132	0.696594	0.051804	0.688962	0.037260	0.042285
9	10	45.0	0.785398	0.783596	0.046763	0.776874	0.033304	0.036802
10	100	0.0	0.000000	-0.000948	0.044513	-0.000984	0.019413	0.018715
11	100	5.0	0.087266	0.086242	0.044320	0.084069	0.019354	0.020346
12	100	10.0	0.174533	0.173637	0.043538	0.169088	0.018972	0.018777
13	100	15.0	0.261799	0.261647	0.042271	0.255272	0.018421	0.019029
14	100	20.0	0.349066	0.349430	0.040629	0.341437	0.017675	0.018290
15	100	25.0	0.436332	0.435736	0.038550	0.426796	0.016745	0.016890
16	100	30.0	0.523599	0.523385	0.036097	0.514067	0.015575	0.016476
17	100	35.0	0.610865	0.610651	0.033311	0.601497	0.014200	0.014968
18	100	40.0	0.698132	0.698446	0.030354	0.690007	0.012767	0.012671
19	100	45.0	0.785398	0.785009	0.027247	0.777625	0.011254	0.011520
20	1000	0.0	0.000000	0.000331	0.025142	0.000297	0.006178	0.005971
21	1000	5.0	0.087266	0.087467	0.024986	0.085084	0.006138	0.006117
22	1000	10.0	0.174533	0.174712	0.024586	0.170070	0.006044	0.005936
23	1000	15.0	0.261799	0.261868	0.023873	0.255329	0.005862	0.005714
24	1000	20.0	0.349066	0.349136	0.022920	0.341104	0.005622	0.005380
25	1000	25.0	0.436332	0.436184	0.021743	0.427181	0.005315	0.005267
26	1000	30.0	0.523599	0.523680	0.020370	0.514250	0.004953	0.004865
27	1000	35.0	0.610865	0.610712	0.018824	0.601472	0.004534	0.004360
28	1000	40.0	0.698132	0.698194	0.017156	0.689623	0.004079	0.004098
29	1000	45.0	0.785398	0.785360	0.015394	0.777873	0.003592	0.003518