Simulated data

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21.03.22

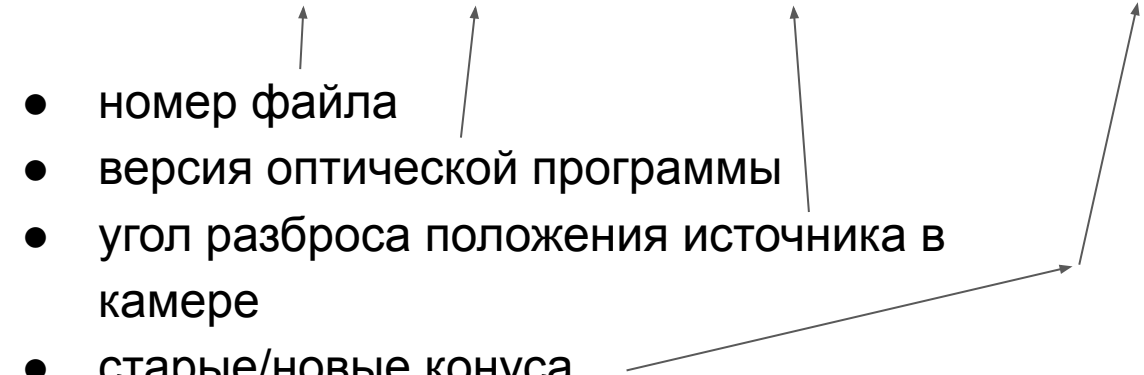
sh://volchugov@gridmsu31.sinp.msu.ru/k1/taiga_pool/CORSIKA_TAIGA/mc

.n	Name	Size	Modify time
/bpe411_30_da5.0_md5		4096	янв 14 2020
/bpe427_30_da0.1_md5		4096	янв 14 2020
/bpe435_30_da5.0_md5		4096	мар 10 2020
/bpe443_30_da5.0_md5		84	янв 21 2020
/bpe455_30_da5.0_md5		4096	мар 10 2020
/bpe479_30_da0.0_md5		4096	мар 23 2020
/bpe479_30_da0.0_md5_m29		4096	мар 24 2020
/bpe479_30_da5.0_md5		4096	апр 28 2020
/bpe479_30_da5.0_md5_m29		4096	мар 23 2020
/bpe479_30_da5.0_md5_m29_mq0.6		84	мар 24 2020
/bpe479_30_da5.0_md5_m29_mq0.7		84	мар 24 2020
/bpe479_30_da5.0_md5_m29_mq0.8		84	мар 24 2020
/bpe479_30_da5.0_md5_m29_mq0.8_aq0.7		84	мар 24 2020
/bpe511_30_da0.0_md5		4096	фев 2 2021
/bpe511_30_da0.1_md5		4096	фев 2 2021
/bpe551_30_da0.1_md5		4096	окт 16 2020
/bpe551_30_da0.1_md5_a2021		4096	фев 2 2021
/bpe567_30_da5.0_md5		4096	янв 20 2021
/bpe567_30_da5.0_md5_a2021		4096	фев 2 2021
/bpe567_31_da5.0_md5		84	фев 9 23:05
/bpe575_30_da5.0_md5		4096	янв 27 15:20
/bpe575_30_da5.0_md5_a2021		4096	фев 2 2021
/bpe583_30_da0.1_md5_a2021		88	апр 6 2021
/bpe591_30_da5.0_md5_a2021		88	апр 6 2021
/bpe599_30_da0.1_md5		10	июн 1 2021
/bpe599_30_da0.1_md5_a2021		4096	июн 1 2021
/bpe599_30_da0.1_md5_a2021_old		4096	апр 13 2021
/bpe599_31_da0.1_md5		84	фев 9 23:06
/bpe607_30_da0.1_md5		4096	ноя 6 19:46
/bpe607_30_da5.0_md5		4096	окт 26 15:27
/bpe607_31_da0.1_md5		84	фев 9 23:31
/bpe615_30_da0.1_md5		4096	ноя 6 19:47
/bpe615_30_da5.0_md5		4096	окт 26 15:30
/bpe623_30_da5.0_md5		4096	окт 26 15:33
/bpe623_31_da5.0_md5		84	фев 10 00:04
/bpe631_30_da5.0_md5		4096	окт 26 15:35
/bpe671_31_da5.0_md5		4096	фев 6 04:07
stats_2.txt		6466	фев 4 13:59

Данные после прохождения оптической программы

Данные после прохождения оптической программы

```
/bpe607_30_da5.0_md5
```

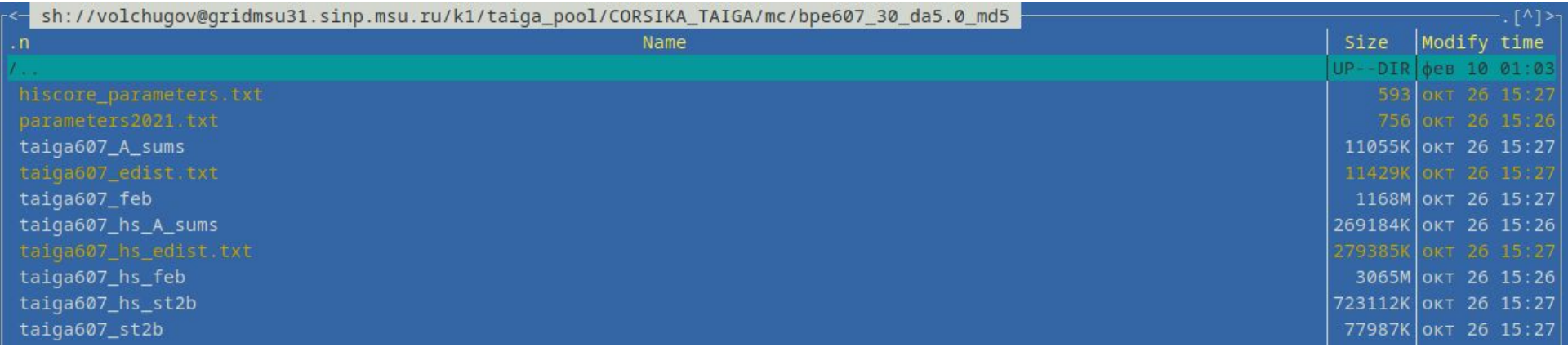


- номер файла
- версия оптической программы
- угол разброса положения источника в камере
- старые/новые конуса

Файл со спецификациями моделирований stats_2.txt

```
k1/taiga_pool/CORSIKA_TAIGA/mc/stats_2.txt
#Nrun   p_type  E1[TeV] E2[TeV] gamma   theta1  theta2  phi1    phi2    R[m]            dR[m]           Nevents Ntel    Nstations
251     14      70.0    1000.0  -2.60   30.0    40.0    130.0   180.0   600.00          141.82          12234   1       45
291     1       35.0    500.0   -2.60   30.0    40.0    130.0   180.0   600.00          141.82          4028    1       45
291     1       35.0    500.0   -2.60   30.0    40.0    130.0   180.0   600.00          141.82          4028    1       45
299     402     70.0    1000.0  -2.60   30.0    40.0    130.0   180.0   600.00          141.82          11265   1       45
315     1608    70.0    1000.0  -2.60   30.0    40.0    130.0   180.0   600.00          141.82          6919    1       45
323     5626    70.0    1000.0  -2.60   30.0    40.0    130.0   180.0   600.00          141.82          8870    1       45
347     2814    70.0    1000.0  -2.60   30.0    40.0    130.0   180.0   600.00          141.82          7132    1       45
379     14      20.0    70.0    -2.60   30.0    40.0    130.0   180.0   600.00          141.82          88839   1       45
379     14      20.0    70.0    -2.60   30.0    40.0    130.0   180.0   600.00          141.82          -1      1       45
411     14      2.0     100.0   -2.60   30.0    40.0    130.0   180.0   250.00          0.00            278930  1       0
427     1       1.0     50.0    -2.60   30.0    40.0    130.0   180.0   250.00          0.00            24360   1       0
435     402     2.0     100.0   -2.60   30.0    40.0    130.0   180.0   250.00          0.00            16285   1       0
443     14      2.0     100.0   -2.60   30.0    40.0    130.0   180.0   250.00          72.03           69583   2       0
455     402     2.0     100.0   -2.60   30.0    40.0    130.0   180.0   250.00          0.00            171596  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
479     6       0.0     0.1     -1.00   30.0    40.0    130.0   180.0   0.30            0.00            155551  1       0
511     1       1.0     50.0    -2.60   30.0    40.0    130.0   180.0   250.00          72.03           14944   2       0
511     1       1.0     50.0    -2.60   30.0    40.0    130.0   180.0   250.00          72.03           14944   2       0
551     1       1.0     50.0    -2.60   30.0    40.0    130.0   180.0   500.00          248.32          117087  4       0
551     1       1.0     50.0    -2.60   30.0    40.0    130.0   180.0   500.00          248.32          117087  4       0
567     14      2.0     100.0   -2.60   30.0    40.0    130.0   180.0   500.00          248.32          80680   4       0
567     14      2.0     100.0   -2.60   30.0    40.0    130.0   180.0   500.00          248.32          80680   4       0
575     14      5.0     100.0   -2.60   30.0    40.0    130.0   180.0   500.00          248.32          66537   4       0
575     14      5.0     100.0   -2.60   30.0    40.0    130.0   180.0   500.00          248.32          66537   4       0
583     1       1.0     50.0    -2.60   0.0     30.0    90.0    270.0   500.00          248.32          86215   4       0
591     14      2.0     100.0   -2.60   0.0     30.0    90.0    270.0   500.00          248.32          106357  4       0
599     1       2.0     50.0    -2.60   30.0    40.0    130.0   180.0   1000.00         141.82          39988   5       0
599     1       2.0     50.0    -2.60   30.0    40.0    130.0   180.0   1000.00         141.82          -1      5       0
599     1       2.0     50.0    -2.60   30.0    40.0    130.0   180.0   1000.00         141.82          39988   5       0
607     1       20.0    200.0   -1.00   30.0    40.0    -60.0   60.0    1000.00         141.82          2457    5       122
607     1       20.0    200.0   -1.00   30.0    40.0    -60.0   60.0    1000.00         141.82          2457    5       122
615     1       20.0    200.0   -1.00   0.0     30.0    -90.0   90.0    1000.00         141.82          3873    5       122
615     1       20.0    200.0   -1.00   0.0     30.0    -90.0   90.0    1000.00         141.82          3873    5       122
623     14      40.0    400.0   -1.00   30.0    40.0    -60.0   60.0    1000.00         141.82          2657    5       122
631     14      40.0    400.0   -1.00   0.0     30.0    -90.0   90.0    1000.00         141.82          2860    5       122
3300    14      50.0    500.0   -2.60   30.0    40.0    130.0   180.0   1000.00         141.82          10242   3       122
3316    1       25.0    250.0   -2.60   30.0    40.0    130.0   180.0   1000.00         141.82          28184   3       122
4000    14      2.0     100.0   -2.60   0.0     0.0     0.0     0.0     600.00          0.00            1000    1       0
```

Внутри папки с моделированием:



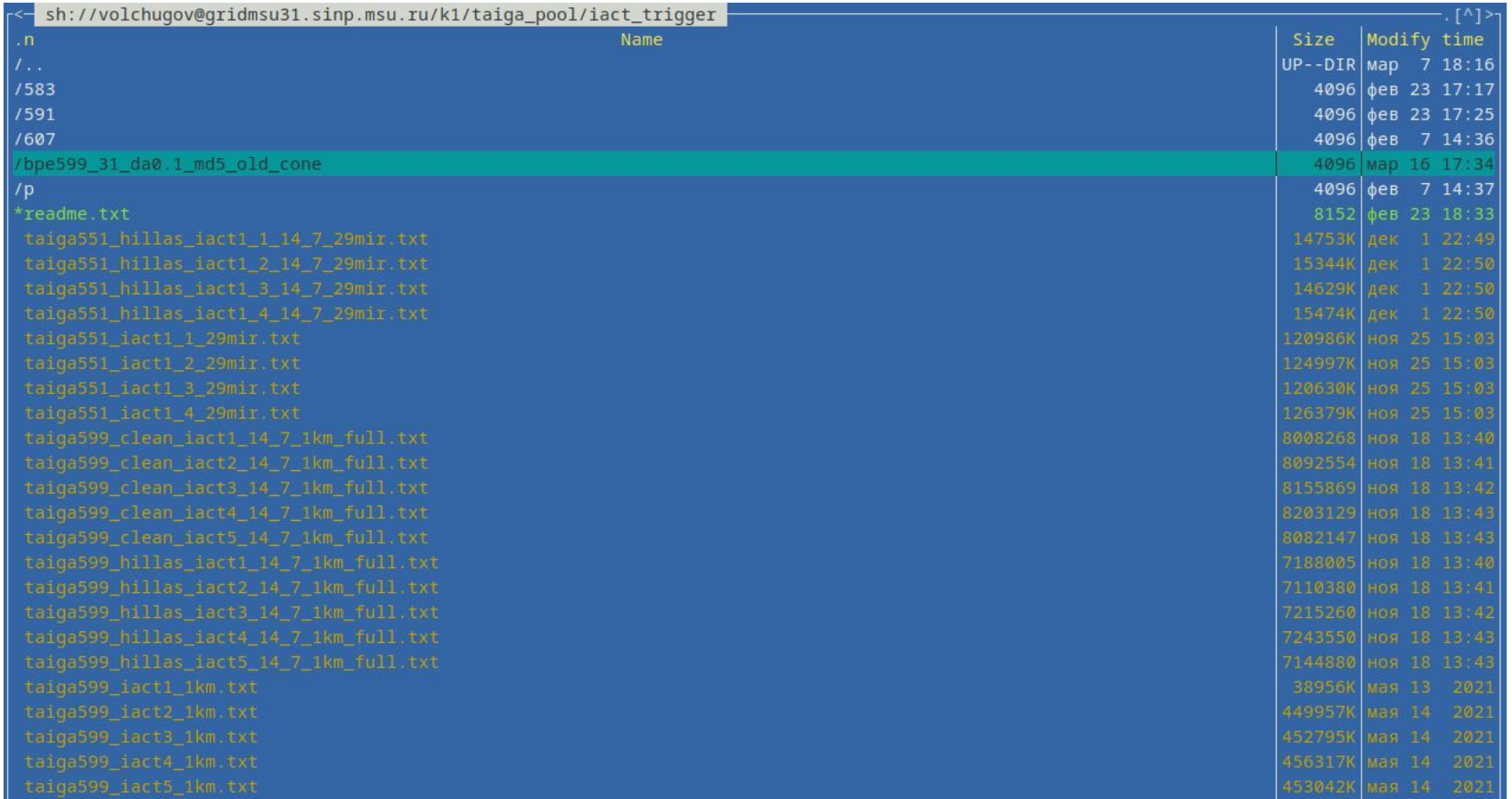
2021 в названии файла parameters2021.txt указывает на использование в моделировании новых конусов(при отсутствии 2021 - конуса старые)

Фрагмент описания файла моделирования(с окончанием _feb)

Dear collegues,
The format of files ending in "_feb" and "_stb" is the following:
Header for all telescope/hiscore station events:

int32 N_run - number of CORSIKA event
int32 N_scattering - number of random shower core scattering (0-9)
int32 N_telescope - number of either telescope (always 0 in first MC stage) or hiscore station (0-44)
int32 N_photoelectrons - total number of photoelectrons in that telescope or station
double E - primary energy[eV]
double theta - primary zenith angle [radian]
double phi - primary azimuth angle [radian] (for some reason 180deg-phi is the angle as seen in reconstruction - consider it as taking the angle from different axis in different direction)
double X_core [mm] (zero, because CORSIKA move the telescope/stations instead of the shower)
double Y_core [mm]
double Z_core [mm]
double H_1st_interaction [mm]
double particle_type (1 - gamma, 14 - proton, 5626 - iron)
double Xmax [g/cm^2] - depth of shower maximum
double Hmax [mm] - height of shower maximum
double X_telescope [mm] - coordinate of telescope/station
double Y_telescope [mm]
double Z_telescope [mm]
double X_offset [mm] - telescope/station coordinate offset from random shower core scattering (should be used to move shower core by -X_offset instead)
double Y_offset

Моделирование после введения триггера телескопа и фона



Содержит 4 типа файлов:

их описание есть в readme

sh://volchugov@gridmsu31.sinp.msu.ru/k1/taiga_pool/iact_trigger/bpe599_31_da0.1_md5_old_cone

.n	Name	Size	Modify time
/..		UP--DIR	map 13 17:15
taiga599_clean_iact1_14_7.txt		5580085	map 17 13:54
taiga599_clean_iact2_14_7.txt		5994127	map 17 13:54
taiga599_clean_iact3_14_7.txt		5927829	map 17 13:55
taiga599_clean_iact4_14_7.txt		6006092	map 17 13:56
taiga599_clean_iact5_14_7.txt		5927428	map 17 13:56
taiga599_hillas_iact1_14_7.txt		5483771	map 17 13:54
taiga599_hillas_iact2_14_7.txt		5782426	map 17 13:54
taiga599_hillas_iact3_14_7.txt		5718614	map 17 13:55
taiga599_hillas_iact4_14_7.txt		5811735	map 17 13:56
taiga599_hillas_iact5_14_7.txt		5743100	map 17 13:56
taiga599_iact1.txt		29049K	map 14 06:02
taiga599_iact2.txt		349047K	map 16 05:44
taiga599_iact3.txt		348826K	map 16 05:44
taiga599_iact4.txt		353300K	map 16 05:44
taiga599_iact5.txt		350775K	map 16 05:44
taiga599_stereo_5tel_14_7_edge1_size0.txt		12863K	map 17 14:05

далее идут примеры этих файлов:

k1/taiga_pool/iact_trigger/bpe599_31_da0.1_md5_old_cone/taiga599_iact1.txt

2	3	56	11.6479	-125.666	-265.745	0.684318	0.703274	0.684378	0.701344	305.978
2	4	12	-10.392	-0.135152						
2	20	13.5	-12.99	-1.53481						
2	16	10.5	-12.991	0.948575						
2	12	9	-10.392	0.479118						
2	8	10.5	-7.795	0.320165						
2	28	13.5	-7.795	0.44128						
2	24	15	-10.392	-1.28813						
2	6	6	-5.196	6.30567						
2	22	7.5	-7.794	-1.68711						
2	18	4.5	-7.794	0.46475						
2	14	3	-5.196	-2.04866						
2	10	4.5	-2.599	0.056185						
2	30	7.5	-2.598	-3.89363						
2	26	9	-5.196	-2.91514						
2	58	7.5	2.598	1.65553						
2	54	9	-0	7.31776						
2	34	6	-0	3.23119						
2	38	4.5	2.598	0.740056						
2	42	6	5.196	1.1683						
2	46	9	5.196	-1.86389						
2	50	10.5	2.598	49.164						
2	56	13.5	-2.597	-1.10756						
2	52	15	-5.196	1.70494						
2	32	12	-5.197	0.901508						
2	36	10.5	-2.598	0.378933						
2	40	12	-0	6.70688						
2	44	15	0	3.31978						
2	48	16.5	-2.598	1.39627						
4	4	15	5.196	5.40259						
4	20	16.5	2.598	25.3067						
4	16	13.5	2.598	47.7583						
4	12	12	5.196	0.312081						
4	8	13.5	7.794	-1.87218						
4	28	16.5	7.794	-1.86448						
4	24	18	5.197	0.16242						
4	6	9	10.393	-0.402948						
4	22	10.5	7.795	2.91448						
4	18	7.5	7.794	-1.30923						
4	14	6	10.392	1.8854						
4	10	7.5	12.99	-0.491318						
4	30	10.5	12.99	-0.603057						
4	26	12	10.393	0.0362323						
4	58	10.5	18.186	2.23161						
4	54	12	15.589	-1.85308						

k1/taiga_pool/iact_trigger/bpe599_31_da0.1_md5_old_cone/taiga599_clean_iact1_14_7.txt

```
     0     2     3     4      11.6479     -0.39622    -0.423897     -125.666     -265.745     0.101086      1.16813
2       50      10.5     2.598    49.164
2       54         9        -0   7.31776
4       16      13.5     2.598   47.7583
4       20      16.5     2.598   25.3067
     1     2     5     5      11.6479    -0.353943     0.683226     0.964033      215.541      0.66624    -0.757828
1       18        -9   -5.196   51.2544
1       22        -6   -5.196   137.109
1       26      -4.5   -2.598   23.0023
5       42     -10.5   -7.795   37.5388
5       46      -7.5   -7.794   21.8192
     2     2     6     4      11.6479    -0.776776     0.240055      42.1994     -3.32466    -0.579196 -0.000272414
1       36        -3        -0   52.8779
1       40      -1.5     2.598   53.1187
1       54      -4.5     2.599   10.3661
1       56         0         0   263.077
     3     2     8     7      11.6479    -0.239171     0.439828       135.47      187.482    0.0176773    -0.633369
1        6      -7.5   -2.598   22.1901
1       10        -9         0   68.7752
1       14     -10.5   -2.598    22.494
1       30        -6         0   21.8543
7       28     -13.5   -2.598    16.292
7       32       -15        -0   23.9926
7       52       -12         0   19.5989
     4     2     9     5      11.6479    -0.495596     0.192157      110.739     -323.526      1.18304    -0.516489
4        6         9   10.393   22.3232
4       14         6   10.392   8.30618
4       18       7.5    7.794   43.8886
4       26        12   10.393   7.88015
4       30      10.5    12.99   12.0575
     5     4     6     4      6.91556     0.624242     -0.32912      40.2367     -308.127     -0.22307      5.75944
2       46         9    5.196   8.98395
2       50      10.5     2.598   18.9563
4       16      13.5     2.598    25.896
4       20      16.5     2.598   12.4015
     6    11     1     5      7.57431     0.357324    -0.247037      241.011      119.793    -0.820747     -1.54029
1       38        -9    5.196   24.9938
8        4       -12   10.392   7.40697
8       12       -15   10.392   18.8484
8       16     -13.5    7.795   12.9413
8       20     -10.5    7.795   42.5775
     7    11     8     7      7.57431     0.519985     0.623238      191.324      115.203    -0.504774   -0.0807422
1       34      -7.5     2.598   24.3629
1       38        -9     5.196   62.6207
7       40       -15     5.196   9.33316
```

```
k1/taiga_pool/iact_trigger/bpe599_31_da0.1_md5_old_cone/taiga599_hillas_iact1_14_7.txt                                                                                    8368/5355K
0       2       3   4  11.6479     129.547     1.53082     0.29562     0.748165    0.288475    0.0665971     1.5591      1.61623     0.074034     0.18622     5.15784     6.61622     0.101086     1.16813     1.2663     0.313319          0    -0.39622    -0.423897   -1
25.666      -265.745     0.684318    -0.703274     0.684378     0.701344      305.978
1       2       5   5  11.6479     270.724    -0.866558    -0.66873     0.695777    0.261839     0.10073     1.09459     1.11488     0.107134     0.168299     3.98451     8.68237     0.66624    -0.757828    -0.7236   -0.626638          0    -0.353943    0.683226    0.
964033      215.541      0.682881    -0.700364     0.684378     0.701344      305.978
2       2       6   4  11.6479      379.44   -0.0905706   0.0524253    0.833323    0.164935    0.0956098    0.104649   0.0236796    0.156685    0.0218715   0.0155649    67.4642    -0.579196 -0.000272414        0            0          0    -0.776776    0.240055    4
2.1994      -3.32466     0.682803    -0.702405     0.684378     0.701344      305.978
3       2       8   7  11.6479     195.197    -1.21574   -0.0978752    0.475252    0.327519    0.145119     1.21967     1.19645     0.14858     0.129917     3.59005     6.23378    0.0176773    -0.633369    -1.0854            0          0    -0.239171    0.439828
135.47      187.482      0.683396    -0.700738     0.684378     0.701344      305.978
4       2       9   5  11.6479     94.4556     1.02281     1.14773     0.700983    0.264198    0.122885     1.53734     1.56096     0.12381     0.100817      1.4988     3.70313     1.18304    -0.516489     0.9045     0.939956          0    -0.495596    0.192157    1
10.739      -323.526      0.68332    -0.701921     0.684378     0.701344      305.978
5       4       6   4  6.91556     66.2378     1.51869     0.355815    0.677141     0.30668    0.0860319     1.55981     1.49661     0.162397     0.700276     25.7611     27.8986    -0.22307      5.75944     1.6281     0.313319          0     0.624242    -0.32912    4
0.2367      -308.127     0.617171    -0.0680331    0.615813     0.066991      300.886
6      11       1   5  7.57431     106.768    -1.37616     0.943721     0.63288    0.322708    0.0932104     1.66866     1.72105    0.0969179     0.147899     4.93643     4.92981    -0.820747    -1.54029    -1.2663     0.940077          0     0.357324    -0.247037   2
41.011      119.793      0.584762    -0.46825      0.583856     0.468024          359
7      11       8   7  7.57431     190.055     -1.3167     0.654901    0.604479     0.32994    0.118103     1.47058     1.49629     0.12003      0.10405     0.338686     3.98749    -0.504774   -0.0807422    -1.0854     0.626638          0     0.519985    0.623238    1
91.324      115.203      0.584244    -0.465006     0.583856     0.468024          359
8      12       0   4  2.11983     75.1624    -0.239243     1.04106     0.634348    0.355539  2.86031e-05    1.06819     1.11384     0.085811     0.268832     17.0598     13.9665    -1.73191      5.19661    -0.1809     0.940077          0     0.567486    -0.244182   1
86.629      -58.2257     0.597022    -0.527869     0.595731      0.52815      265.088
9      13       4   6  4.52489     208.026    -0.478197   -0.155827    0.573308    0.290651    0.121891     0.502946     0.489139     0.12551     0.0554704    3.84911     6.51159     0.401958     0.301722    -0.3618           -0          0   -0.0546455   -0.215963    5
.90105      80.3172      0.573328    -0.432604     0.573242     0.431754       335.31
10      14       1   4  6.94964     75.0298    -1.42392    -0.588514    0.613897     0.27147    0.0996001     1.54075     1.46581     0.128282     0.469251     17.0246     18.6709    0.0950738    -3.75735    -1.4472    -0.626638          0    -0.712292    0.0834492   -
42.0856     312.278      0.635464    -0.252155      0.63696     0.251812      299.217
11      18       6   4   2.8198     113.454     0.787721   -0.456219    0.744999    0.268779    0.0913396    0.910297     0.899142    0.0917062    0.029138     0.057869     1.85708    -0.577816  -0.00880473     0.5427    -0.313439          0   -0.0412181   -0.264031   -
101.384     -126.852     0.603748    -0.0841079    0.603788    0.0831195      307.391
12      18       8   4   2.8198     70.7424    -0.737234    0.713564    0.781274    0.225151    0.0931719     1.02601     0.96471     0.117161     0.334327     20.2098     20.2769    -2.07553     -6.77106    -0.7236     0.626638          0    -0.358694    0.360218
201.484     118.056      0.602973    -0.0818971    0.603788    0.0831195      307.391
13      25       4   4  2.90945     110.832     0.192255    -1.02143    0.727018    0.282842    0.076224     1.03937     1.13379    0.0837577     0.14451     7.92071     7.32273    -2.97483     -3.72725     0.1809    -0.940077          0    -0.241149    0.750759    -
120.408     62.5789      0.667934    -0.736274     0.669372     0.737612      383.361
14      28       9   4  2.53831     89.9462   0.00695735   -0.194057    0.709551    0.215155    0.111758     0.194181     0.108442     0.121632     0.0283151    0.646269     15.1358    -40.7129      0.739612         0            0          0    -0.198339    -0.747124   -
23.7389     16.1514      0.685835    -0.498028     0.685452      0.49553      398.571
15      31       5  14  19.4184     1190.64     0.12256    -0.668918    0.610835    0.362883     0.14529     0.680053     0.65551     0.166201     0.159098     7.71319     14.0464    -21.4482      16.2502     0.1809    -0.313319          0    -0.547112    -0.340861   -
61.9193     12.8512      0.646144    -0.277331     0.647056     0.275663      391.042
16      31       6   8  19.4184     170.719    -1.91087     1.44199     0.395644    0.546215    0.105009      2.3939     2.44457     0.125354     0.312217     6.15463     7.33777    -0.598122     2.47977     -1.809      1.25328          0    0.0798349    -0.584588
336.697     214.425      0.647554     -0.27755     0.647056     0.275663      391.042
17      31       9   7  19.4184     135.908    0.0185924    2.22175     0.425507    0.356608    0.134935     2.22183      2.2953     0.135615     0.0942994    3.42807     2.35458    -19.4143      21.4155          0      1.88003          0     0.351486    -0.608891
385.984     -103.946     0.648118    -0.277372     0.647056     0.275663      391.042
18      33       0   4  2.21075     55.8124    -0.230149     0.63701     0.652635    0.190308    0.134855     0.677311     0.664154     0.140069     0.187259     21.4886     16.3767      35.271       72.592    -0.3618     0.626638          0    -0.506004   -0.0435306
190.233     12.5116      0.659057    -0.206209     0.660081     0.205707       308.74
19      42       1   8  13.8563     173.168     -1.6402     0.348858    0.518364    0.326506    0.153754     1.67689     1.68765     0.15396     0.0467278     1.7487     1.58661    -0.244812    -0.436839    -1.2663     0.313319          0    -0.105273    -0.809971
 141.36     271.305      0.531327    -0.257818     0.531109     0.254451      305.828
20      42       8   6  13.8563     466.712    0.0912329   -0.124547    0.730756    0.167425    0.160982     0.154387     0.150476     0.161626     0.0471329     13.336     18.2538    -0.852286    -0.387979         0            0          0    -0.398849    -0.561553   -
12.6554     -4.16856     0.530596     -0.25713     0.531109     0.254451      305.828
21      46       1   8  15.3101     376.971     0.872019     0.914116    0.717745    0.352981    0.0923307     1.26334     1.34214     0.106723     0.210857     7.49594     9.03889     1.36864     -2.31641     0.9045     0.939956          0    -0.665079    -0.263052
130.504     -199.306     0.602497    -0.408306     0.603563     0.406431      338.428
22      46       2   7  15.3101      134.45     2.31026    -0.319733    0.444961    0.498356    0.0971016     2.33228      2.3429    0.0979836     0.0628736    0.71765     1.53776    -0.125653    -0.244126     2.7135    -0.313319          0   -0.0471681     0.28724    -
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k1/taiga_pool/iact_trigger/bpe599_31_da0.1_md5_old_cone/taiga599_stereo_5tel_14_7_edge1_size0.txt

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0       4       129.547 -125.666        -265.745        1.61623 0       0.101086        1.16813 6.61622 0.0665971       1.53082 0.29562 0.288475        1.2663  0.313319
4       5       70.2361 285.672 -333.586        1.73965 0       7.65555 -10.4717        6.74534 0.101281        0.378596        1.63547 0.323511        0.3618  1.25328
2       4       1       11.6479 0.683751        -0.702499       0.684378        0.701344        -0.451291       -0.0723831      305.978
1       5       64.0444 324.274 158.335 1.79502 0       -0.404817       -0.554104       1.06705 0.147959        -1.73054        0.633727        0.267291        -1.4472 0.626758
2       5       4       11.6479 0.682881        -0.700364       0.684378        0.701344        -0.353943       0.683226        305.978
0       5       270.724 0.964033        215.541 1.11488 0       0.66624 -0.757828       8.68237 0.10073 -0.866558       -0.66873        0.261839        -0.7236 -0.626638
1       5       371.96  -143.075        -72.9145        0.903562        0       -0.289037       -1.13684        12.7242 0.0818654       0.748767        -0.353524       0.24894 0.5427  -0.313439
2       5       123.957 222.055 -236.98 1.255   0       6.34566 1.94131 0.846752        0.105847        0.170976        1.31908 0.318293        0.1809  0.939956
3       7       312.994 102.442 -14.7601        0.475053        0       -0.717102       0.509436        0.945937        0.145514        -0.424114       0.365571        0.255344        -0.1809 0.313319
2       6       2       11.6479 0.682803        -0.702405       0.684378        0.701344        -0.776776       0.240055        305.978
0       4       379.44  42.1994 -3.32466        0.0236796       0       -0.579196       -0.000272414    67.4642 0.0956098       -0.0905706      0.0524253       0.164935        0       0
3       8       217.043 143.678 -233.626        1.07802 0       2.60891 -2.89718        11.9324 0.131363        0.491942        0.934035        0.34254 0.5427  0.939956
2       7       3       11.6479 0.684792        -0.702765       0.684378        0.701344        -0.125563       -0.45286        305.978
2       7       120.084 -278.616        -98.427 1.43234 0       -0.582412       1.34853 7.83875 0.152991        1.30933 -0.599934       0.3074  1.4472  -0.626758
3       4       72.3218 -398.229        123.793 1.55175 0       -1.73212        0.000515628     1.49379 2.49901e-05     0.795478        -1.3778 0.350414        0.7236  -1.25328
4       5       124.95  -88.3689        286.253 1.29188 0       0.916563        -2.31561        7.82294 0.134855        -0.839829       -1.04902        0.254834        -1.0854 -1.2534
2       8       3       11.6479 0.683396        -0.700738       0.684378        0.701344        -0.239171       0.439828        305.978
0       7       195.197 135.47  187.482 1.19645 0       0.0176773       -0.633369       6.23378 0.145119        -1.21574        -0.0978752      0.327519        -1.0854 0
1       6       354.091 -8.56866        -100.974        0.560788        0       0.860095        -2.00173        25.5704 0.102001        0.512509        0.199398        0.252326        0.3618  0
3       8       209.551 236.948 -42.8192        1.02586 0       -0.927052       1.47634 6.22745 0.155043        -0.701065       0.82797 0.344319        -0.7236 0.626638
2       9       1       11.6479 0.68332 -0.701921       0.684378        0.701344        -0.495596       0.192157        305.978
0       5       94.4556 110.739 -323.526        1.56096 0       1.18304 -0.516489       3.70313 0.122885        1.02281 1.14773 0.264198        0.9045  0.939956
4       1       1       6.91556 0.614263        -0.0671645      0.615813        0.066991        -0.737782       0.00191648      300.886
4       4       59.4225 -263.444        114.59  1.36231 0       16.3957 56.911  13.9757 0.118171        -0.497858       -1.29927        0.218869        -0.3618 -1.25328
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0       4       66.2378 40.2367 -308.127        1.49661 0       -0.22307        5.75944 27.8986 0.0860319       1.51869 0.355815        0.30668 1.6281  0.313319
7       4       1       4.65868 0.669984        -0.0825491      0.670034        0.0818075       -0.0416435      -0.21606        358.3
4       4       171.256 108.342 -48.1699        0.738804        0       1.732   8.88178e-16     0.673119        4.40193e-09     0.356846        0.618057        0.283451        0.3618  0.626638
10      7       1       2.34737 0.532597        -0.42406        0.533615        0.424994        -0.347786       0.404601        358.193
2       5       94.7035 26.7104 76.1243 0.631461        0       0.0309157       -0.359167       8.50243 0.126024        -0.663281       -0.0638213      0.242789        -0.7236 0
11      1       3       7.57431 0.584762        -0.46825        0.583856        0.468024        0.357324        -0.247037       359
0       5       106.768 241.011 119.793 1.72105 0       -0.820747       -1.54029        4.92981 0.0932104       -1.37616        0.943721        0.322708        -1.2663 0.940077
1       6       288.79  96.9718 -168.663        1.05796 0       1.00122 2.11516 12.6568 0.127971        0.608547        0.864376        0.285439        0.3618  0.626638
3       5       57.3852 342.489 -110.508        1.75866 0       -3.87302        2.6557  1.49203 0.122685        -0.352082       1.6839  0.291211        -0.1809 1.56659
11      2       2       7.57431 0.584199        -0.469755       0.583856        0.468024        -0.0596019      -0.478051       359
2       6       239.719 -48.0664        22.5318 0.305353        0       -0.509663       -2.19208        36.3314 0.143657        0.129833        -0.330536       0.174808        0.1809  -0.313319
3       5       112.733 -167.679        244.752 1.54408 0       2.57532 4.55394 7.92769 0.0971578       -0.759279       -1.40618        0.357752        -0.7236 -1.25328
11      4       3       7.57431 0.584406        -0.466616       0.583856        0.468024        0.399368        0.211635        359
2       7       143.028 -94.3167        -207.76 1.37779 0       -0.0980025      1.70141 7.25989 0.123096        1.42538 0.0654991       0.358638        1.0854  -0
3       7       203.161 -213.93 14.4593 1.10162 0       -2.0198 0.397615        1.72761 0.111941        0.506965        -0.976015       0.338491        0.5427  -0.939956
4       5       185.674 95.9302 176.919 1.32215 0       -0.0458951      -0.582667       4.24644 0.0580062       -1.27345        -0.0118242      0.314039        -1.0854 0
11      6       1       7.57431 0.585391        -0.466639       0.583856        0.468024        0.814511        -0.00424029     359
4       5       64.0353 -58.9241        -315.918        1.83288 0       0.629148        -4.07787        11.4394 0.154795        1.81238 0.648462        0.269983        1.809   0.626638
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