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Subject: Re: HepMC

Posted by [Kilian Schwarz](#) on Wed, 06 Apr 2005 13:58:08 GMT

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Dear Oleg,

HepMC has been installed for gcc323 at GSI at the location  
/usr/local/pub/debian3.0/gcc323-00/sim/HepMC\_Version1.25  
with examples at  
/usr/local/pub/debian3.0/gcc323-00/sim/HepMC\_Version1.25/examples

See

[http://www.gsi.de/informationen/wti/dvee/software/simulations\\_sw.html](http://www.gsi.de/informationen/wti/dvee/software/simulations_sw.html)

a description of the generated ASCII files can be found at

[http://mdobbs.home.cern.ch/mdobbs/HepMC/html\\_reference/IO\\_\\_Ascii\\_8cxx-source.html](http://mdobbs.home.cern.ch/mdobbs/HepMC/html_reference/IO__Ascii_8cxx-source.html)

it stores

ASCII-File output-extract

```
=====
HepMC::IO_Ascii-START_EVENT_LISTING
E 0 -1.0000000000000000e+00 -1.0000000000000000e+00 -1.0000000000000000e+00 0 0
164 0
0
V -1 0 0 0 0 1 2 0
P 1 2212 0 0 6.9999999371178146e+03 7.0000000000000000e+03 3 0 0 -1 0
P 3 1 1.8207711891212544e-01 1.8064803338823676e-01 1.0686638074933117e+02
1.0686668854348508e+02 3 0 0 -3 0
...
=====
```

According to my understanding, the  
(rough) explanation is:

when

'E' = EVENT it stores:

- event\_number,
- event\_scale [energy],
- alphaQCD,
- alphaQED,
- signal\_process\_id,
- signal\_process\_vertex,
- signal\_process\_vertex->barcode,
- vertices\_size,
- weights

when

'V' = VERTICES it stores

vertex->barcode

vertex->id

- position(x)
- position(y)
- position(z)
- time
- particles\_out\_size

weights  
when  
'P' = PARTICLE it stores  
particle->barcode  
    pdg\_id  
    momentum.px  
    momentum.py  
    momentum.pz  
    momentum.e  
    status  
    polarization.theta  
    polarization.phi  
    end\_vertex

Cheers,

Kilian