

# HepMC 3 plans



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# HepMC status 2013

- de-facto standard interface between MC generators and downstream simulation
- immediate feature requests couldn't be implemented in timely way
- design issues require major redesign

# HepMC reboot 2014

- Mini-workshop in Jan 2014 to start off new development
- Regular discussion group:  
Witek Pokorski, Andy Buckley, Tomasz Przedzinski  
Leif Lönnblad, Phil Ilten, DG
- Two-pronged approach:  
more responsive release cycle on HepMC 2  
re-designed HepMC 3

# HepMC 2 developments

- iterator ranges, constness, nullable pointers for Polarization and Flow, numerical stability, ASCII IO speedup, weight containers,
- ... (see workshop slides by Andy Buckley)

# HepMC 3 ideas

- Define text format first, followed by tools to deal with the format
- Tomasz Przedzinski
- aim for coherent minimal design  
[edit after question session: plan to work out core implementation first, when that is well thought-out, required HepMC 2 features can be added back easily]

# HepMC 3 draft text format

- Directed acyclic graph
- Lines only refer to previous ones, only explicitly list parent particle / vertex

```
E 1 [... event parameters ...]
T 1 [... tool 1 description ...]
...
P 8 6 ...
V -1 [3,4,7] @ ...
P 10 8 ...
P 11 8 ...
T 2 [... tool 2 description ...]
P 12 X8 ...
P 13 12 ...
P 14 12 ...
```

# HepMC 3

- Discussion contributions welcome!
- Contact Witek Pokorski to be included on the mailing list / group meetings