Generator Interface Issues

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Nov. 30, 2005

CLHEP/HepMC

- HepPDT particle ID translation methods
- CBinterface
  - C++ compliant interface to common blocks
  - Singleton implementation
- Fortran used only in examples
- Saves generated mass
  - not always the same as mass from 4 vector
  - HEPEVT/phep(5,)

HepPDT original design

- Designed to interface with generators
  - call decay method directly
- New generation of C++ generators use ThePeg/PDT
  - More complex than users want

HepPDT Version 2

- Remove direct interface to decay methods
- Simpler and more transparent
- particle ID translation methods
  - (same as HepPDT version 1)
  - free function
  - do not depend on HepPDT::ParticleData
  - currently knows about PDG, herwig, isajet, pythia, QQ, EvtGen

HepPDT::ParticleID

- Particle ID class
- Describes the PDG particle ID numbers
- Is this a valid ID?
- Is this a baryon, meson, etc.?
- Does this particle have a b quark, etc.?
- Methods to access all information embedded in PDG numbering scheme
- Attempt to standardize name strings

Conclusion

- HepPDT version 2 available Dec. 5

  - improvements based on user input

  - http://cepa.fnal.gov/psm/heppdt/

- Future versions based on requests from this forum

- You may want some ideas from CLHEP/HepMC