Physics Generators in Bruno

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Present Status

- Bruno built in generator:

  BBBrem (e^+ e^- to e^+ e^- gamma) for lumi background studies

  Guinea Pig (read and ASCII file with a set of particles) for Touschek/beam gas background studies

  Single particle for detector charecterization

- Hand made kludges to feed Bruno with events produced by other Monte Carlo generators

Present and future (hopefully) needs

- Pair production: DIAG36 (Fortran 77)
- Large angle Bhabha: BHWIDE (Fortran 77)
- Full fledged Physics events:
  b bbar (EvtGen C++)
  tau pairs (kk2f + Tauola Fortran 77)

Present!

Hope!

Strategy A

- Take profit of the Fast sim generators
  - Dana approach: call Fast Sim to produce the events, translate it in from StdHepAsciiDump output into the guinea ascii format
  - Pro: “straightforward”, already available, viable for all generators
  - Cons: not ideal for grid submission (data must follow the job)

Strategy B

- Dirty (not necessaty quick) path to include DIAG36 & BHWIDE
- F2C automatic translation (+ hand tweaking)
- kinematic interface: momentum smearing, C.M. boost, primary vertex position smearing

Strategy C

- Take profit of the Fast Sim generators and their C++ interface
- Pros: events are produced at run time
- Cons: lot of work

Action items

- Strategy A: (Dana) publish & document the script infrastructure
- Strategy B/C: find a volunteer to implement B/C