Rivet monthly dev meeting

10 Mar 2020

Issues for discussion

- **Git workflow:**
  - any refinements? master synced from release-3-1-x several times this month
  - Markdown under doc/tutorials/ tied to version in the repo
  - Currently linking to master URL, but updating 31: make sense?

- **CI implementation:**
  - Good news from Louie: CI now working for at least YODA, by bypassing the m4/gnulib bug that blocks building a custom autotools
  - Have also updated the bootstrap script to avoid installing autotools by default developers can make sure they have their own build tools installed!

- **Rivet-build memory requirement:**
  - Reported that Rivet build requires 3 GB of RAM, causing problems for VMs (or just use containers?) Due to parallel analysis builds: can we constrain via “make -j1”?

Releases and plans

Need to start thinking about 3.1.1 release for bugfixes (also in YODA) and new analyses.

- YODA API regression in YODA scripts (Jeppe A, others)
- YODA typo in dict I/O (Jon, others)
- NLO histogramming implementation — (Pascal S) Leif & Frank, status?
- HepMC2/3 weight ordering problem… in HepMC2 or 3? (Marian Heil)
- Unit handling error in beams (Dima Konstantinov)
- Missing implementation for Cuts::quantity? (Chris G)

Issue tracking for Release 3.1.1 milestone: https://gitlab.com/hepcedar/rivet/-/milestones/4

Physics-technical tasks

Tasks for next releases (some to add to gitlab issues)

- ~~Vector2 class + etaphi(), rapphi() on P4 and ParticleBase~~ — **Andy, not yet API functions**
- ~~Add InvisibleFinalState to complement VisibleFinalState~~ — **UNRIVETY!**
- ~~Vector normalize() and scale() on T->histo maps?~~ — **Done, Chris G**
- Common MissingMomentum/SmearedMET base class — **Andy: TBD, maybe in R3.1.1?**
- ~~SFINAE improvements to apply<>() method~~ — **Done, Andy**
- ~~pdfspace() binning util enhancement in YODA~~ -> Rivet — **Andy: maybe in R3.1.1?**

- **Beam comparison consistency** — **Andy, R3.2.0… or earlier, cf. Dima K bug report?**
- Add Transformers list to Fastjets (CPU penalty now, refine when possible) — **Andy, R3.2.0**
- Fix & extend Particle impact param methods: closestApproach, d_0 and z_0 — **???: R3.1.1**
- Connect Cutflow(s) classes to multiweight system, and histogramming — **???: TBD**

Misc issues

Workshops, tutorials, etc.

- Frank S hosting the next Rivet dev workshop in Dresden: May 11-14
- Logistics, bookings, etc.?
- MCnet funding extends to end of March 2021: one more workshop, late 2020, early 2021?

HepData sync effort:

- Status of hdsync & booking features?

HSF Google Summer of Code

- MCnet project with LHAPDF, YODA, Rivet, Contur projects (+ Sherpa)
- Student tests sent for CEDAR projects… evaluation this month

Last MCnet shortie posts at Glasgow & UCL. EU money + Rivet/Contur…