

Rivet monthly dev meeting

11 Dec 2019

Releases

Rivet 3.0.2 released in mid November; a few minor bugs found immediately:

- Malformed Energy entries in two new analysis .info files
- Missing includes in several contributed analyses (Genser)
- Crash on HepMC files with *no* weights
- Issues with MC_XS normalisation (Marian Heil)
- HepMC3 missing #define, normalisation issues, etc. (MH)
- HepMC3 paths not reported through rivet-config (MH)
- *HepMC2/3 weight ordering problem... in HepMC2 or 3? (MH)*

All but the last now fixed on the release-3-0-x branch

Several of these look like HepMC issues rather than Rivet issues... [send feedback](#)

Need a v3.0.3: [could do it before Xmas?](#)

Also expect a new HepMC3 request, requiring a Rivet update.

NB. A new release requires updating the analysis diff scripts, etc. to use git

Hosting migration

Switched to git and gitlab.com (huge thanks to Frank S and Chris G)

- Under new hepcedar group, with rivet, rivet-bootstrap, and yoda projects/repos
- **TODO:** analysis diff + count script rewrites needed for 3.0.3 or 3.1.0 release
- **TODO:** add CI. A Contur run would have picked up a several 3.0.2 issues
- **Documentation push needed: TBD *this week*:**
 - Migrate useful wiki content from HF to Gitlab
 - Keep HF main page and generated per-release files
 - Use opportunity to write more user-focused documentation on gitlab wiki (Neil et al)
 - Document new contrib mechanism

Mailing list migration from HF:

- Lists have been ported to CERN egroups
- **Need to switch to *using* them**

Actions during Rivet hackfest this week!

Physics-technical tasks

Tasks postponed for later releases

- Vector2 class + etaphi(), raphi() on P4 and ParticleBase — **Andy, maybe in R3.0.3?**
- Add InvisibleFinalState to complement VisibleFinalState — **???: TBD, could be R3.0.3**
- Vector normalize() and scale() on T->histo maps? — **???: TBD, could be R3.0.3**
- Common MissingMomentum/SmearedMET base class — **Andy: TBD, maybe in R3.0.3?**
- ~~YODA lazy YAML parsing, re. huge systematics lists — **Jon & Louie: DONE, Y1.8.0**~~
- ~~Scatter points know their parent object, needed for nicely distributing correlation info — **Louie: DONE, Y1.8.0** (hiccups in writeYODA now all fixed?)~~
- Beam comparison consistency — **Andy, R3.1.0**
- Add Transformers list to Fastjets (CPU penalty now, refine when possible) — **Andy, R3.1.0**
- Fix & extend Particle impact param methods: closestApproach, d_0 and z_0 — **???: TBD**
- Connect Cutoff(s) classes to multiweight system, and histogramming — **???: TBD**

AOB

Papers

- Rivet v3 — [nearly complete](#), only HI to be finished. **Submit to arXiv & SciPost *this week***
- Detailed heavy ion: half-done... Christian B: Final push, goal: arXiv ~December: *still valid?* <https://gitlab.com/bierlich/hi-rivet-paper>, contributors needed — **Christian to edit & hassle**

Workshops, tutorials, etc.

- **Hackfest at CERN this week, focus on long-term data/stats objects, plotting & docs**
- Frank S has offered to hosting the next Rivet dev workshop in Dresden: details TBC

HepData sync effort: still there, but features in booking and syncing should help. **Status/plan?**

MCnet shortie posts at Glasgow & UCL. EU money + Rivet/Contur. Tell your students to apply!