

Rivet monthly dev meeting

7 Oct 2019

Physics-technical tasks

- **R3.0.2 + Y1.8.0 releases should happen this month (last in July, 3 months ago)**
 - **Contrib analysis synchronisation: new from ALICE with more coming; ATLAS, CMS?**
 - Beam comparison improvements — Andy: **FOR 3.1.0**
 - Leif's GA minimiser — tested by Andy, Neil Warrack: **Andy to check & merge for 3.0.2**
 - ~~Add no-fill shortcut to multiweight histo syncing — done by Chris G~~
 - ~~Weight distribution analysis (Chris G, AB — works)~~
 - ~~High |weight| truncation mechanism (requested by ATLAS): done by Chris G~~
 - ~~Python @property removal & YAML parsing improvement cf. PyYAML warning (AB) ... !?~~
 - ~~Analysis options shouldn't need a .info entry: add warning for validation system: done by Leif~~
 - **More Py3 Unicode — Frank Siegert to-do**
 - **YODA lazy YAML parsing, re. huge systematics lists — Jon to-do**
 - **“Bin width normalisation” issue — Rivet to always output scatters? Andy to enhance mkScatter**
 - *Wishlist: add Transformers list to Fastjets? Caching p_T , rap, etc. basis?*

Outlook

- **Organisation**

- **Switch to git and gitlab.com** (or github? gitlab has CERN familiarity)
 - Split into core & analyses repos; contrib via forked ana repo + MRs (Andy, Chris G) **AGREED**
 - Need volunteers: repo conversion & rewriting analysis diff + count scripts. **ASK SIEGERT!**
- **Focus groups on docs, stats & plotting: Christian B, Andy to prod & set definite tasks**
 - **Plotting: Short status and tasks: Christian B (see appendix slide)**

- **Papers:**

- ~~smearing: Andy + Deepak Kar & Karl Nordstrom — DONE!~~
- v3/multiweight: Jon coordinating — **started, need contributions to fill out skeleton** **TODO: ALL!**
- Heavy ion: half-done... Christian B: Final push, goal: arXiv ~December.
<https://gitlab.com/bierlich/hi-rivet-paper>, contributors needed. **CHRISTIAN TO EDIT, HASSLE**

- **Workshops, tutorials, etc.:**

- Vietnam school 15-20 Sept: tutorial report from Jon? **WENT WELL**
- *Any upcoming?* **NONE KNOWN**

Appendix: Matplotlib plotting status

Development ongoing: gitlab.com:bierlich/rivet-plot.git, mostly CB but others are welcome!

Idea:

- Replace rivet-cmhistos & make-plots with library and script based on yoda API: rivetcmp.py & rivet-plot.py.
- Focus on basic plotting features. Statistics, curve plotting etc. better in pure Python.
- Methods pushing plots to axis objects to a) make iterable, b) make available as library.

Status:

- Reproducing basic features of make-plots.
- Slight speedup - latex is bottleneck, further tricks can be played.
- 3d plots and styling is made very easy.
- Library useful for statistics features - should be implemented by user, not us.

Action items:

- Proper branch (preferably gitlab), allowing for better integration.
- Near future: Fixing latex in all .plot files, reproducing all/most make-plots plotting features, polish presentation of figures using stylesheets.
- Next-to-near future: More work on 3d-plotting, better separation library/plot script, performance.
- NN-NF: Porting relevant features to YODA, improve statistics and fitting usage - possibly as analysis add-ons.