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

  - Leif's GA minimiser — tested by Andy, Neil Warrack: Andy to follow-up and merge

  - ~~Add no-fill shortcut to multiweight histo syncing~~

  - ~~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: WHO?

  - More Py3 Unicode — Frank Siegert, or ...?

  - YODA lazy YAML parsing, re. huge systematics lists — Jon

  - Nicer solution to the "bin width normalisation" issue — Rivet to always output trivial objects?

  - Wishlist: *add Transformers list to Fastjets? Caching pT, 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)

    - Need volunteer to trial repo conversion and rewrite analysis diff & count scripts

  - Focus groups on docs, stats & plotting: Christian B, Andy, etc. 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

  - Heavy ion: half-done… Christian B: Final push, goal: arXiv ~December.
    https://gitlab.com/bierlich/hi-rivet-paper, contributors needed.

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

  - Vietnam school 15-20 Sept: tutorial report from Jon?

  - *Any upcoming?*

Appendix: Matplotlib plotting status

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

Idea:

- Replace rivet-cmphistos & 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.