University of BRISTOL

CMS & HEPData

(my personal take)

Henning Flaecher

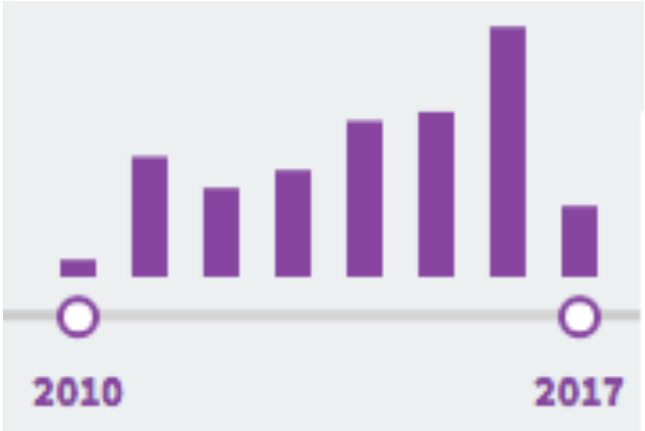
H.H. Wills Physics Laboratory

University of Bristol

HEPData usage by CMS

- CMS Collaboration Board decision to upload all analyses results to HEPData

- Current status:
  - 220 CMS paper results uploaded to HEPData out of 648 (34%)
  - > 45 in preparation
  - Status of Oct 2015: 133/431 submitted Physics papers, i.e., 31%



HEPData “automated” submission

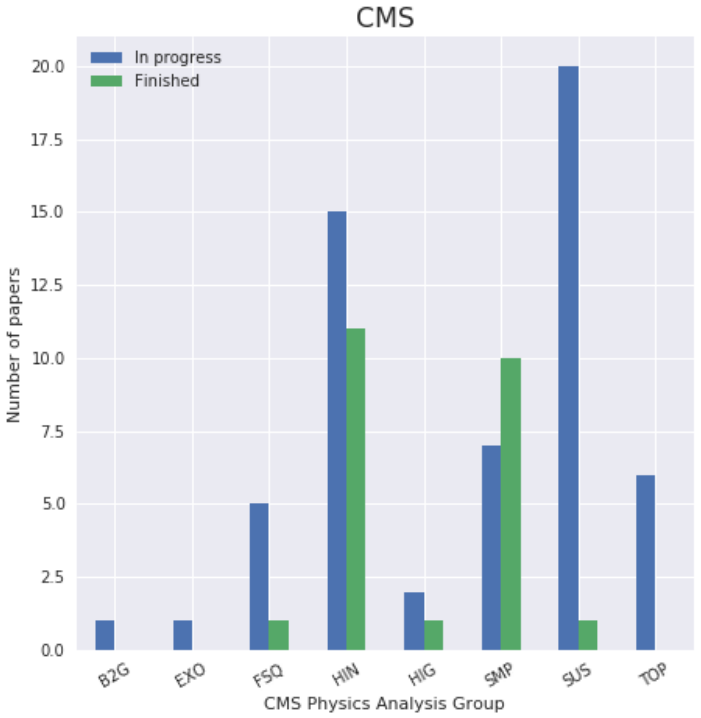
The new upload process is considered a big improvement, however, in practice for CMS:

- Coordinators and reviewers are often the same person (physics groups convenors)
- Uploaders are the analysis authors

- Preview of results as they will appear is very useful
- From my experience, it still often takes several iterations between reviewers and uploaders, which slows down the process

HEPData usage across CMS

- HEPData "compliance" strongly depends on physics analysis group
- For the SM physics groups, usage is rather good
- Historically less so for SUSY and EXO
  - but picking up



From Graeme's talk

Some comments/feedback on ease of use

Submission process has improved but is still considerable effort on analysts side

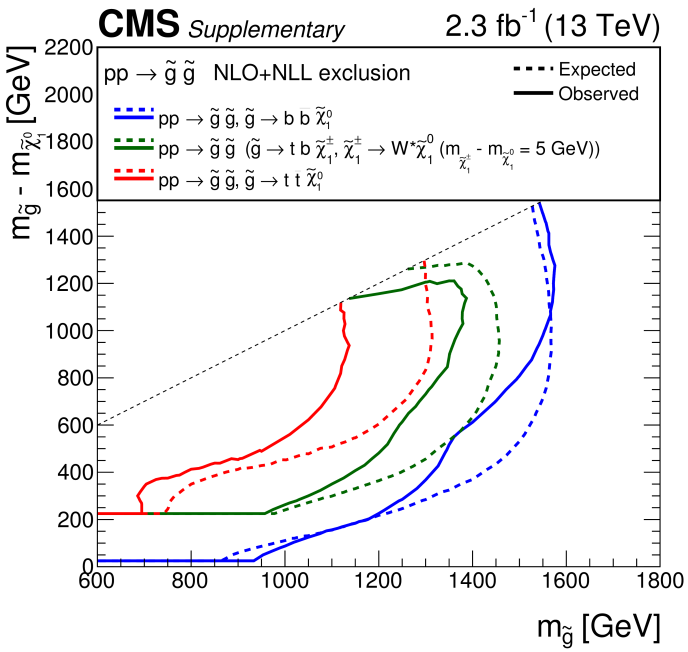
- HEPData and its format often not considered by analysts from the start
  - Conversion of tables/plots into YAML
  - Questions about clarity and where to find documentation and validator tool and sandbox for mock submissions
  - “Once we figured how to structure everything in YAML, it was fairly straightforward converting tables and plots”

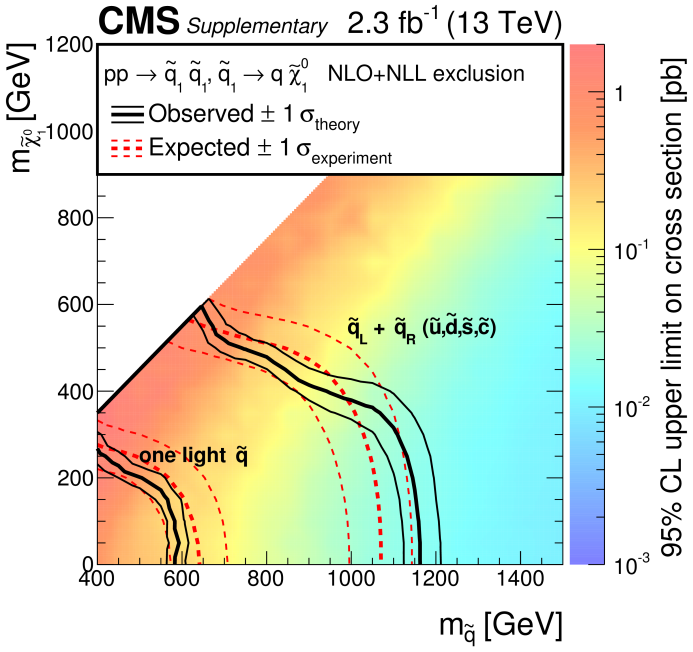
- -> need to raise further awareness of HEPData submission

Some comments/feedback on functionality

Often not possible to show results (mainly in case of limits) as in journal publication

- assumption that all data has a single independent variable and multiple dependent ones is very restrictive
- Current solution: one table for each contour and use the X-axis value as the independent variable
- It would be nice to have multiple independent variables, and then have dependent variables that only depend on a subset of these.
- Contours with islands…





Maybe nit-picking but these things take a lot of time…

Something for Discussion

- Role of HEPData vs Rivet
  - Rivet is also widely used, e.g., in TOP group
  - Sometimes perceived as duplication of effort
  - Collection of relevant information
    - E.g. 1D data distributions on rivet but covariance matrices on HEPData