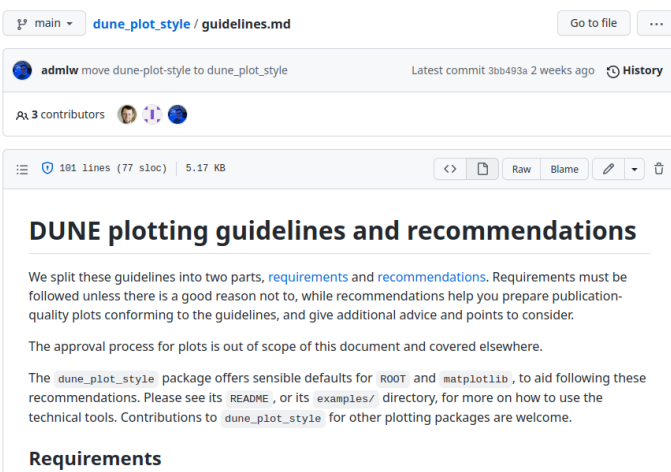# Plot style guidelines: collaboration feedback

Jeremy Wolcott (Tufts University)
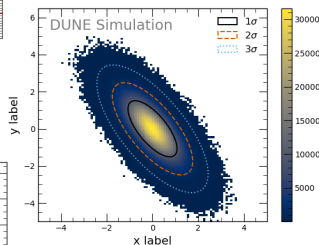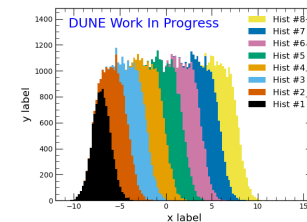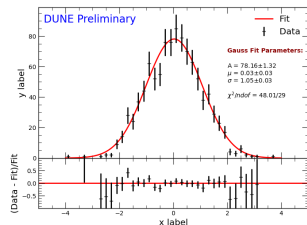
for the "Plot style task force":
Oliver Lantwin, Adam Lister, Andrew Mogan,
Asa Nehm, Kevin Wood

APB meeting
March 27, 2023

Plot Style Guidelines feedback process

guidelines page from
`dune_plot_style` package
in DUNE GitHub

some of the example plots
produced by `dune_plot_style`
example code

- We presented proposed **guidelines** and **example plots** at Jan. collab. meeting

- We requested collaboration feedback via Google Form

  - ▶ 19 separate sets of comments

  - ▶ O(60) total comments

- We've written responses to all the comments

  - ▶ A summary of major topics follows

Feedback: watermarks

○ **We think we should have a standard set of watermarks.**
APB policy doc lists the following kinds of "approved" results:

  ▶ Published

  ▶ Approved but not yet published

  ▶ Approved and simulation-only

  ▶ "Work in progress" (only students/postdocs allowed to use for summer schools, job talks, etc.)

○ **Some criticism in comments over inconsistent colors** (see right). **Thoughts?**

○ **Some pushback over our Recommendation that watermarks always be inside the figure.** (Previous papers don't always follow this either, mostly because plots often wind up too busy that way) **Does APB want to insist?** Task Force would be fine just leaving this up to discretion of plot-maker.

<u>Proposed watermark</u>

DUNE

DUNE Preliminary

DUNE Simulation

DUNE Work In Progress

(from our example plots)

Feedback: interface to Approval Guidelines

o Physics Coords mentioned forthcoming Approval Guidelines they're working on

   ▶ We anticipate linking to those Guidelines when they appear

   ▶ We will update the Plot Style Guidelines to ensure it's clear that the watermarks can only be used after Approval

o Anything else we need to do here?

Feedback: interfaces to other plotting tools

○ **We got recommendations to reuse ATLAS/CMS/LHCb/whatever tools**

  ► We looked into those mentioned but found they would tie us down to a particular software stack (e.g.: Python)

  ► Our goal was to make something that looks the same for heterogeneous software environments, and we didn't find any existing tools for that

○ **We also got a request to support RooFit**

  ► None of us are RooFit users, and our impression is most of the collaboration isn't either

  ► We declined, but would welcome someone else providing this functionality

Feedback: nitpicks

- "Minimum font size" was controversial, as expected

  - ▶ We anticipate making only a general recommendation, like "Font size should generally be at least as large as axis labels" [with understanding that some situations won't permit it]

- Some grumps about recommending a particular color palette ("but mine works better in situation ___")

  - ▶ We reiterated that we are providing *general* guidelines that should work in most situations, but specific circumstances may warrant other choices

- Requests to legislate binning choices, ordering of histograms in stacks, number of significant digits, capitalization ....

  - ▶ We declined these in favor of general recommendations

Revisions to the Guidelines

- Added an Introduction

  - ► Gives context about when the Guidelines apply

  - ► Notes that Recommendations are not mandatory

- Added a <u>Requirement</u> that plots be internally consistent within a document (paper, talk, etc.)

  - ► Should be enforceable for *papers*, but what about *presentations*?...

- Expanded discussion of color palette choices

  - ► More clarity about how and why Okabe–Ito / cividis should be used

  - ► More links to code examples

- Added Recommendations for Event Displays and fonts

If you want to see literally every change we made, visit this diff

APB input requested

○ Ready to sign off?

○ Who "owns" this going forward?

▶ Plan to dissolve "task force"

▶ YD members who worked on this draft of Guidelines will be around for a while, but (most? all?) will drift away eventually

▶ APB probably doesn't have technical expertise to maintain the coding tools? (someone needs to sign off on pull requests)