# HF Explorer

Data viewer for HistFactory (hf) high energy physics modeling

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What is HF Explorer?

- HF Explorer is a web based viewer for high energy particle physics

- allows users to view various types of plots from data formatted as HistFactory workspaces.

- It can currently be found at: http://www.hepexplorer.net
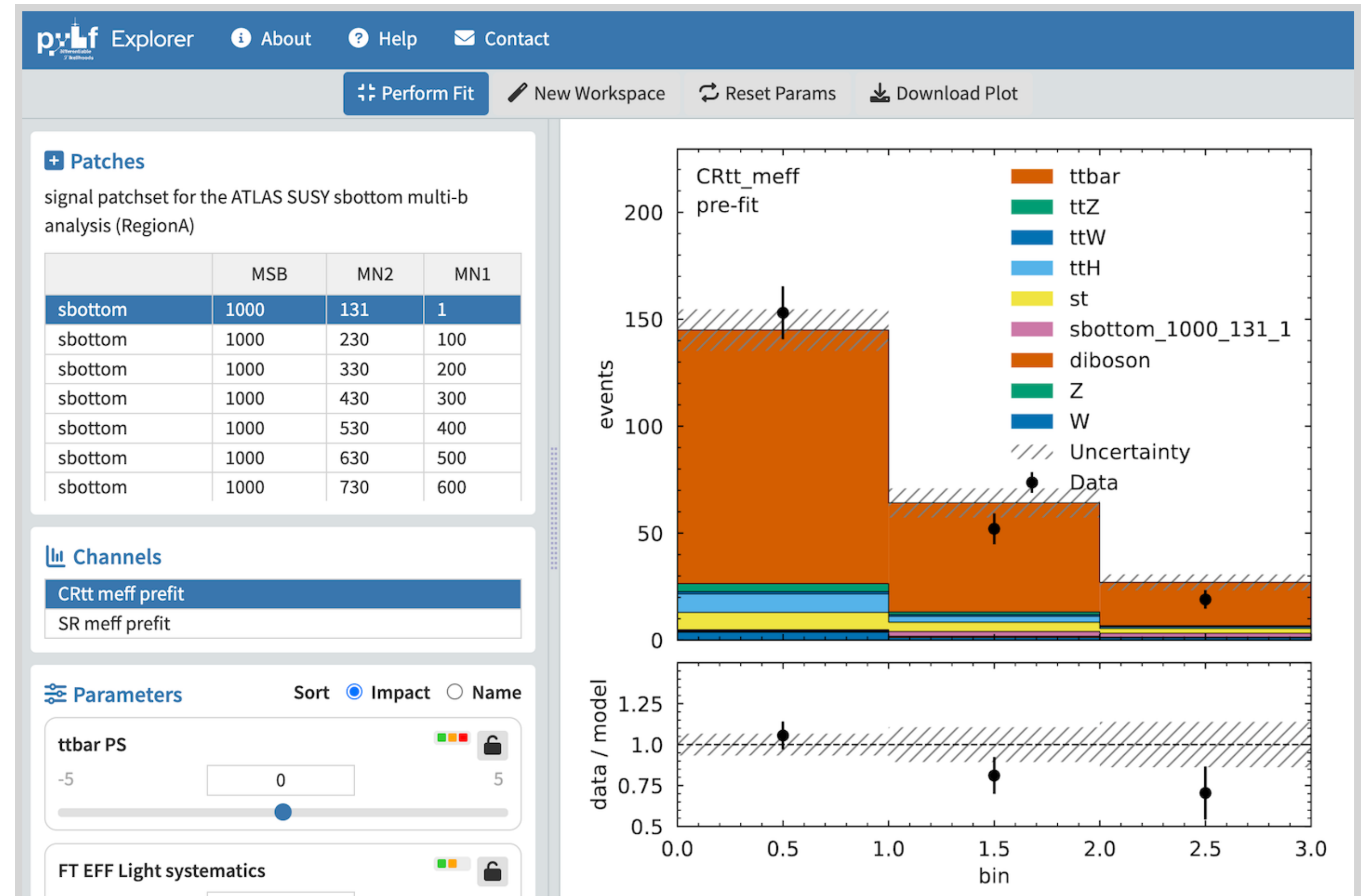
Histograms

Uses and Applications

- Allows for a quick and easy way to view results and to perform some very basic exploration of model parameters.

- **Benefits**

  - Easy to use workspace visualization.

  - No software installation required.

  - Runs on any connected device.

  - Easily share results via url.

Features

- Display histograms.

- Display pull plots.

- Display and interact with model parameters.

- Perform fits.

- Lock selected model parameters during the fit process.

- Sort model parameters by name or by importance / impact.

- Compare channel histograms side by side.

Getting Started

- Upload
  Workspace .json files

- Workspace +
  optional patchset
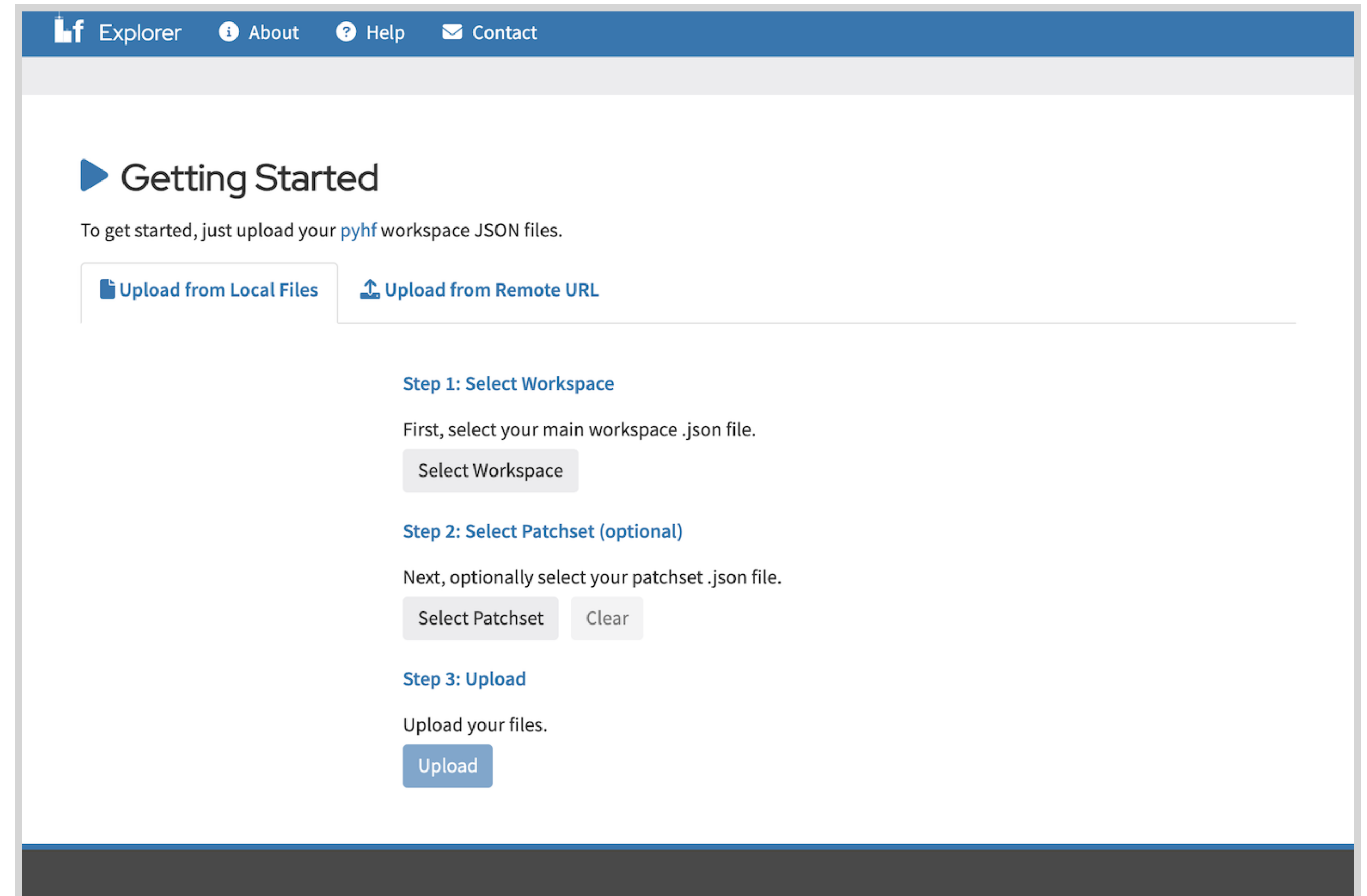
Upload Files

Uploading from HEPData.net

- Enter a HEPData.net url

- Must be a URL to an HistFactory .json file

⬆ Upload from Remote URL

Step 1: Enter URL

First, enter the URL to a JSON workspace. Most often, these will be URLs from www.hepdata.net. This must be a URL to a pyhf workspace.
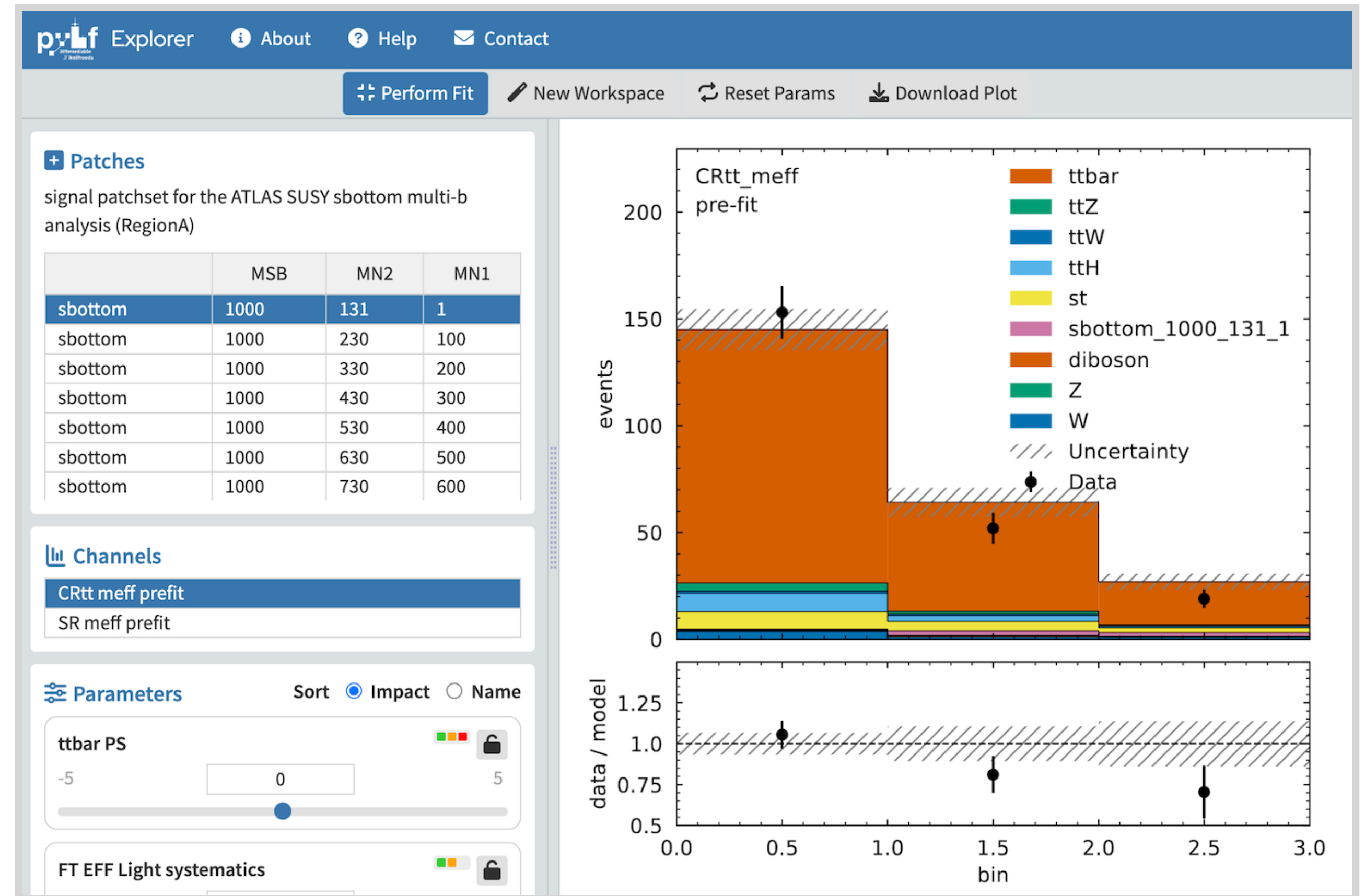
Workspace URL

https://www.hepdata.net/record/resource/1935437

Step 2: Upload

Upload a workspace from this url.

Upload

Upload From HEPData.net URL

The User Interface

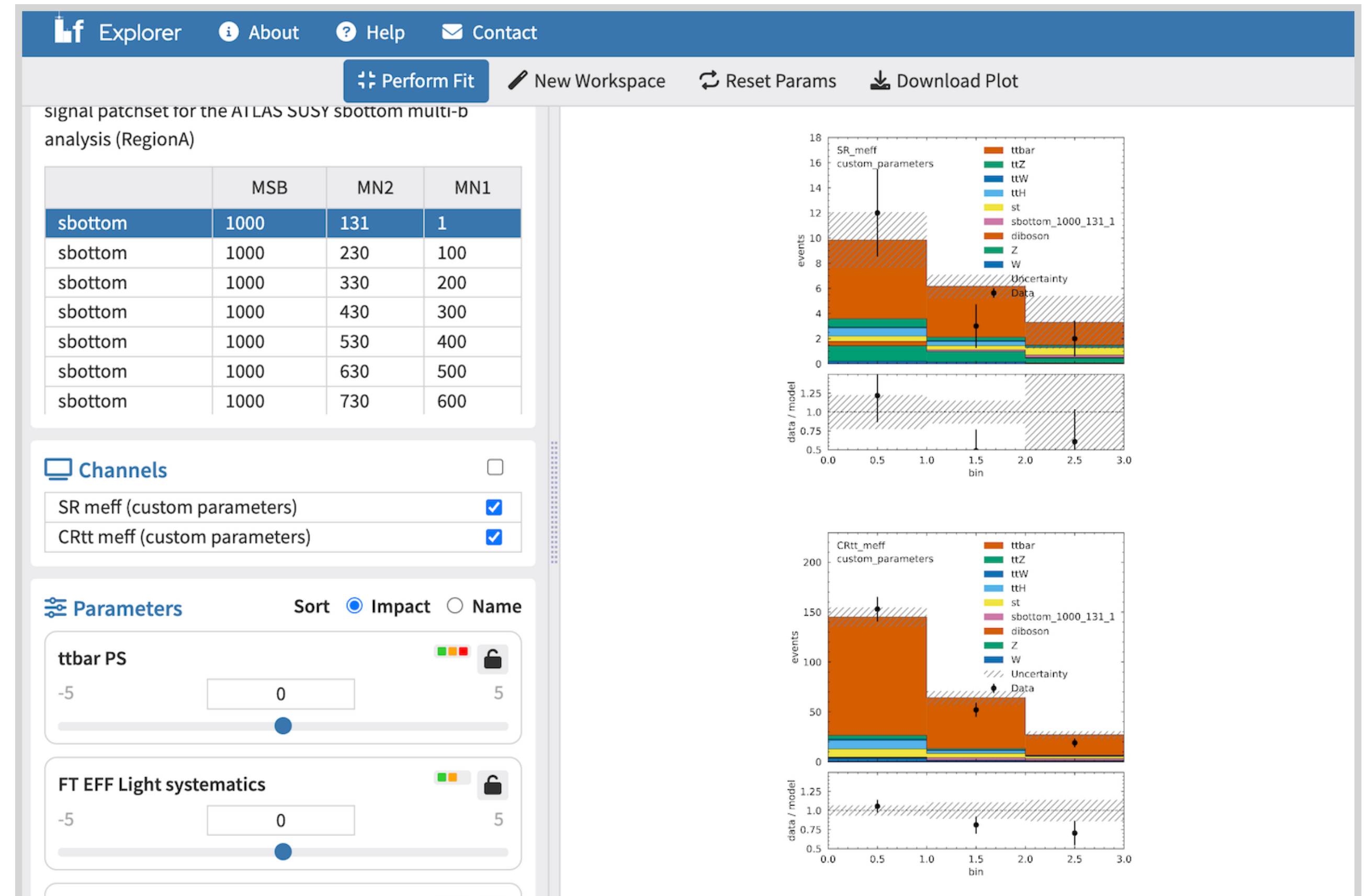- Top button bar

  - performing a fit

- Left sidebar:

  - Patches

  - Channels

  - Parameters

- Mainbar:

  - Histograms, pull plot

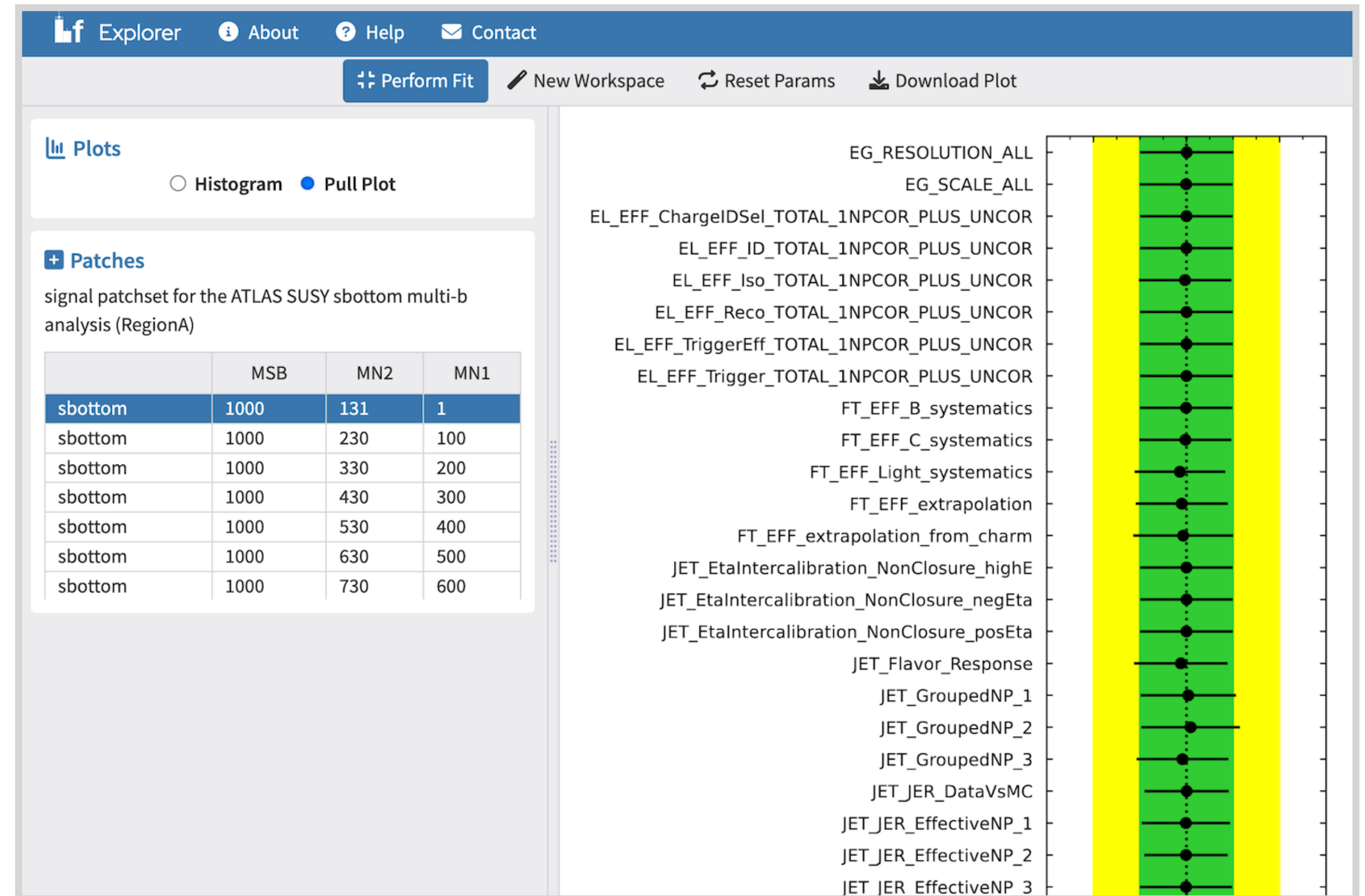HF Explorer User Interface

Comparing Histograms

- Select multiple channels in left sidebar to compare histograms

Multiple Channels

Pull Plots

- Select plot type at top of left side bar.

Pull Plot

Performing Fits

- Click "Perform Fit" button on top bar.

- Can lock selected parameters during fit
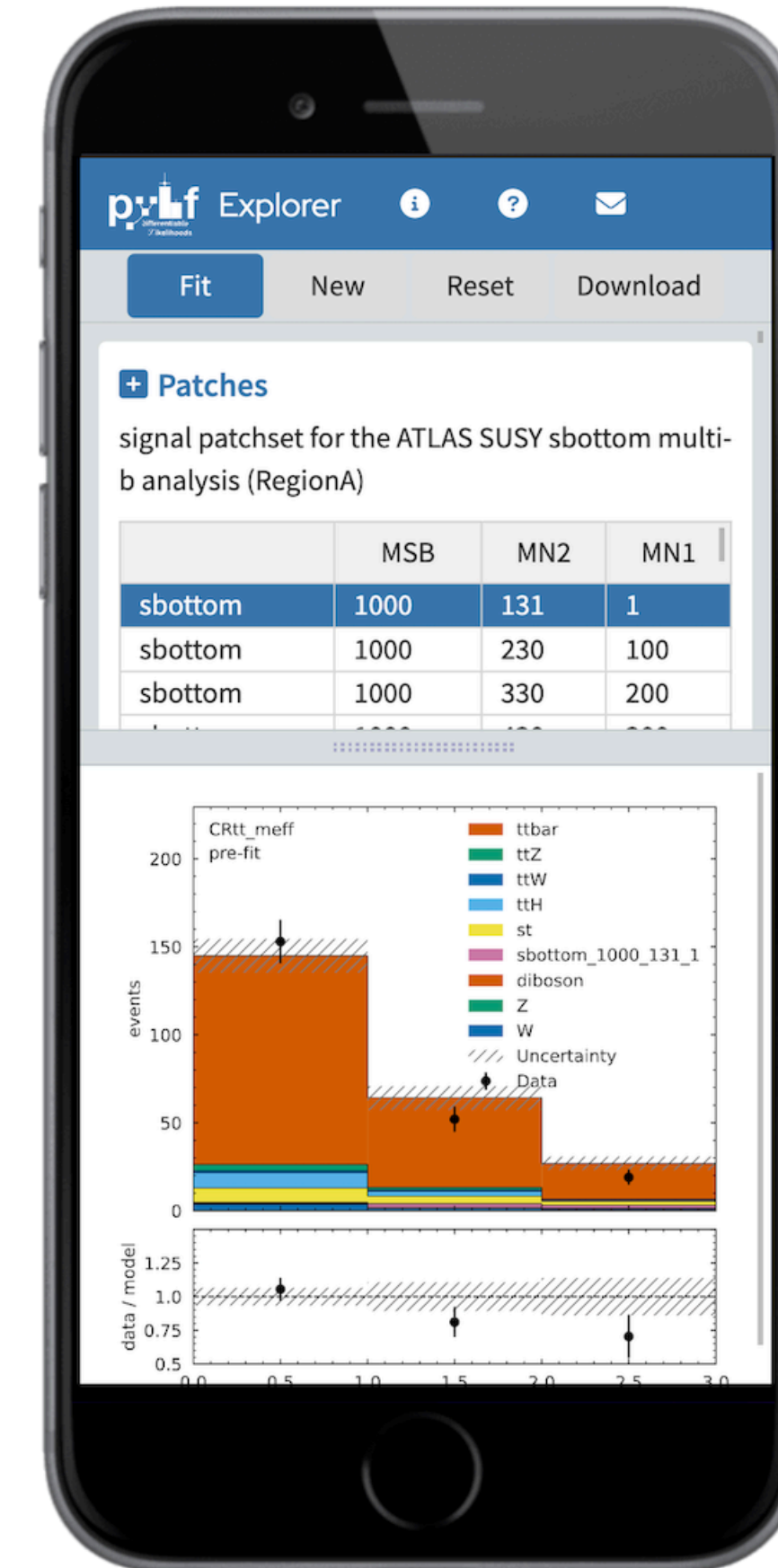
- Sort model parameters by name or impact

Lock Parameters During Fit
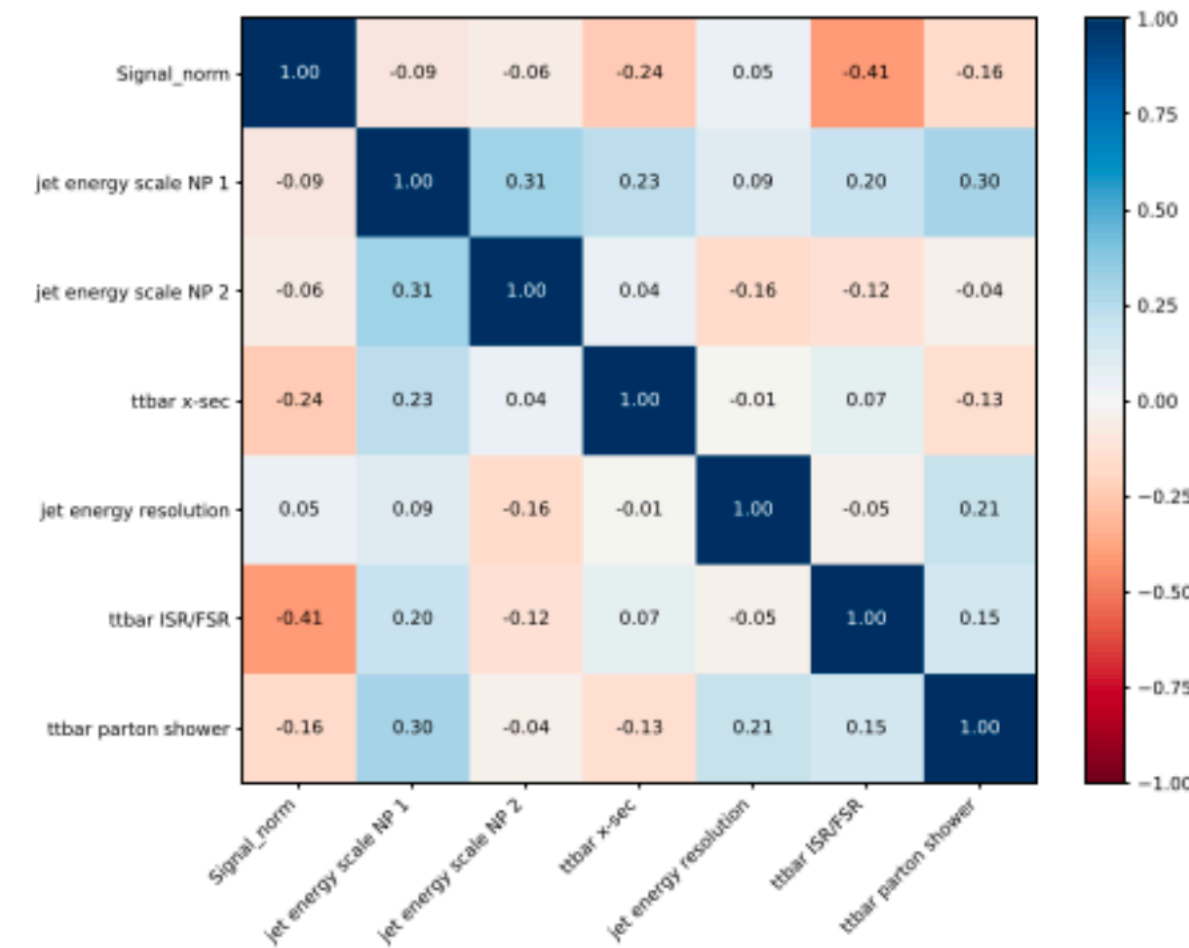
Run Anywhere

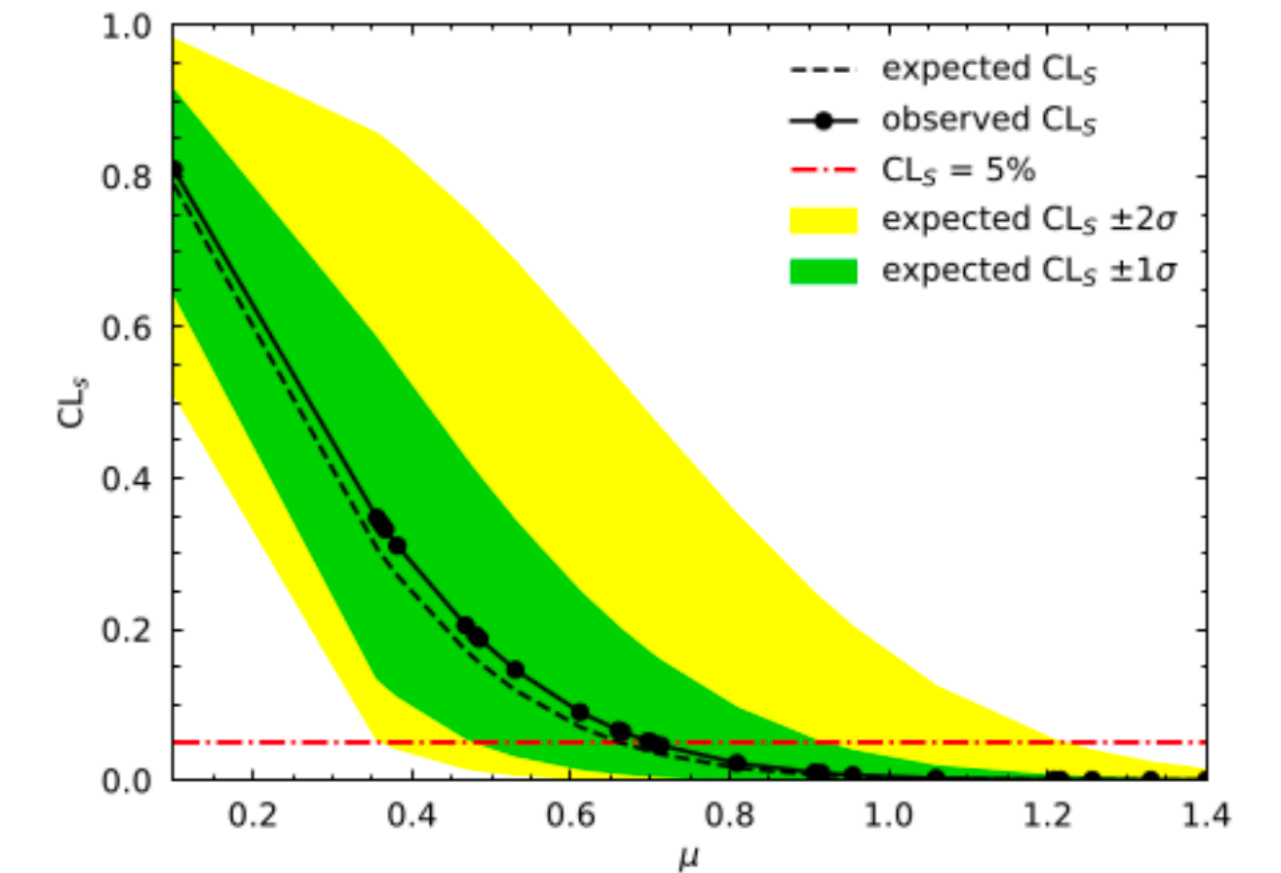- Responsive web app works on any connected device.
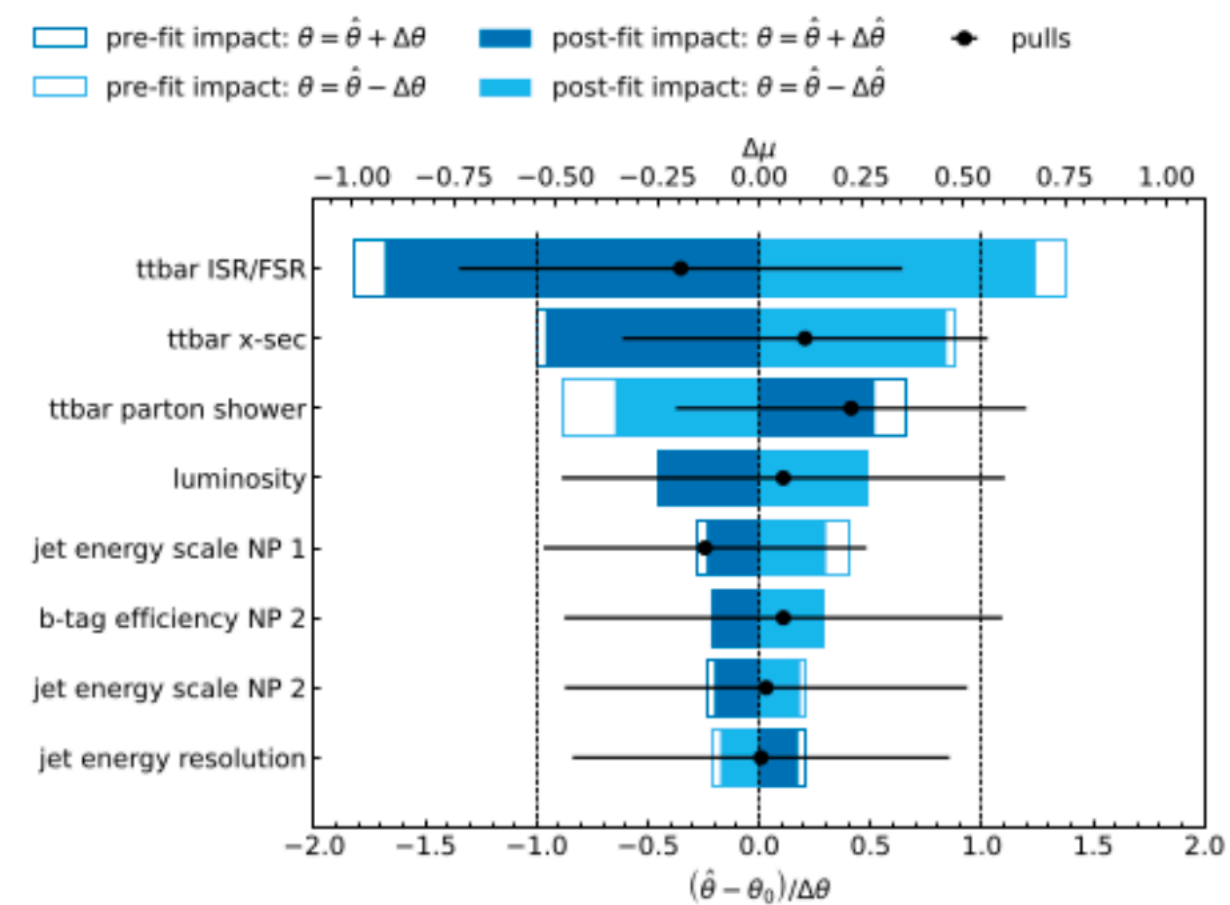

Mobile

Next Steps

- Combining workspaces

- Resolving name conflicts

- Other plot types

- Other ideas? Contact us: amegahed@wisc.edu

Parameter Correlations

Parameter Limits

Parameter Impacts