Software Week
March 2-6, 2020

Current Status Updates

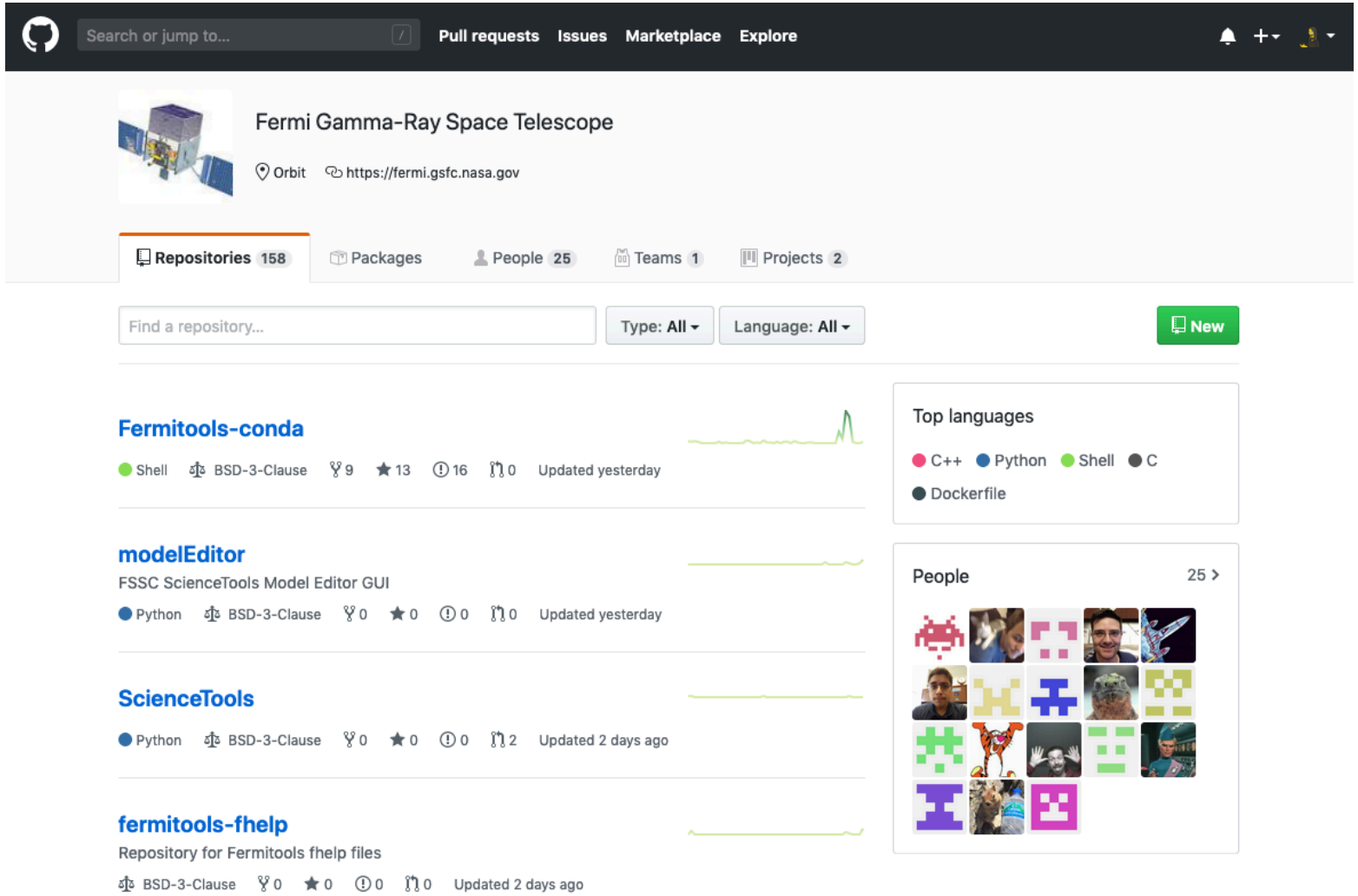
Fermitools Status

- Fermitools
  - Moved to Conda for distribution. First release 2018-10-15.
  - Third party dependencies handled by Conda.
  - Reduces library compatibility issues.
  - Faster releases.
  - Works in MS-Windows in Linux Subsystem for Windows
- Continuous integration (CI) model and open source tools
  - Code moved from CVS to Github.
  - Using Microsoft Azure cloud for build and test pipeline.
    - Allows builds on Linux and MacOS.
  - When a change is checked into Github, a build is automatically started, tests run, and binaries pushed to Conda cloud (if tests passed).

Fermitools Releases

- Fermitools first release 2018-10-15.
- Faster release schedule than ScienceTools
  - Patch releases in March, April, May, June, July 2019.
  - Release 1.2.0 with energy dispersion correction method in October 2019.
- Previous release 1.2.1
  - 988 Linux downloads, 234 MacOS
- Latest release 1.2.23 in February 2020
  - 161 Linux downloads, 45 MacOS
- Lots of bug fixes still needed. Joe is working on them.
- Alex working on compiler and ROOT 6 updates.
- Tom working on Python 3 updates.
- Need to merge all changes together.
- Release as Fermitools 2.0. Stop supported Python 2 releases.

Github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ScienceTools
Python BSD-3-Clause 0 0 0 2 Updated 2 days ago
fermitools-fhelp
Repository for Fermitools fhelp files
BSD-3-Clause 0 0 0 0 Updated 2 days ago
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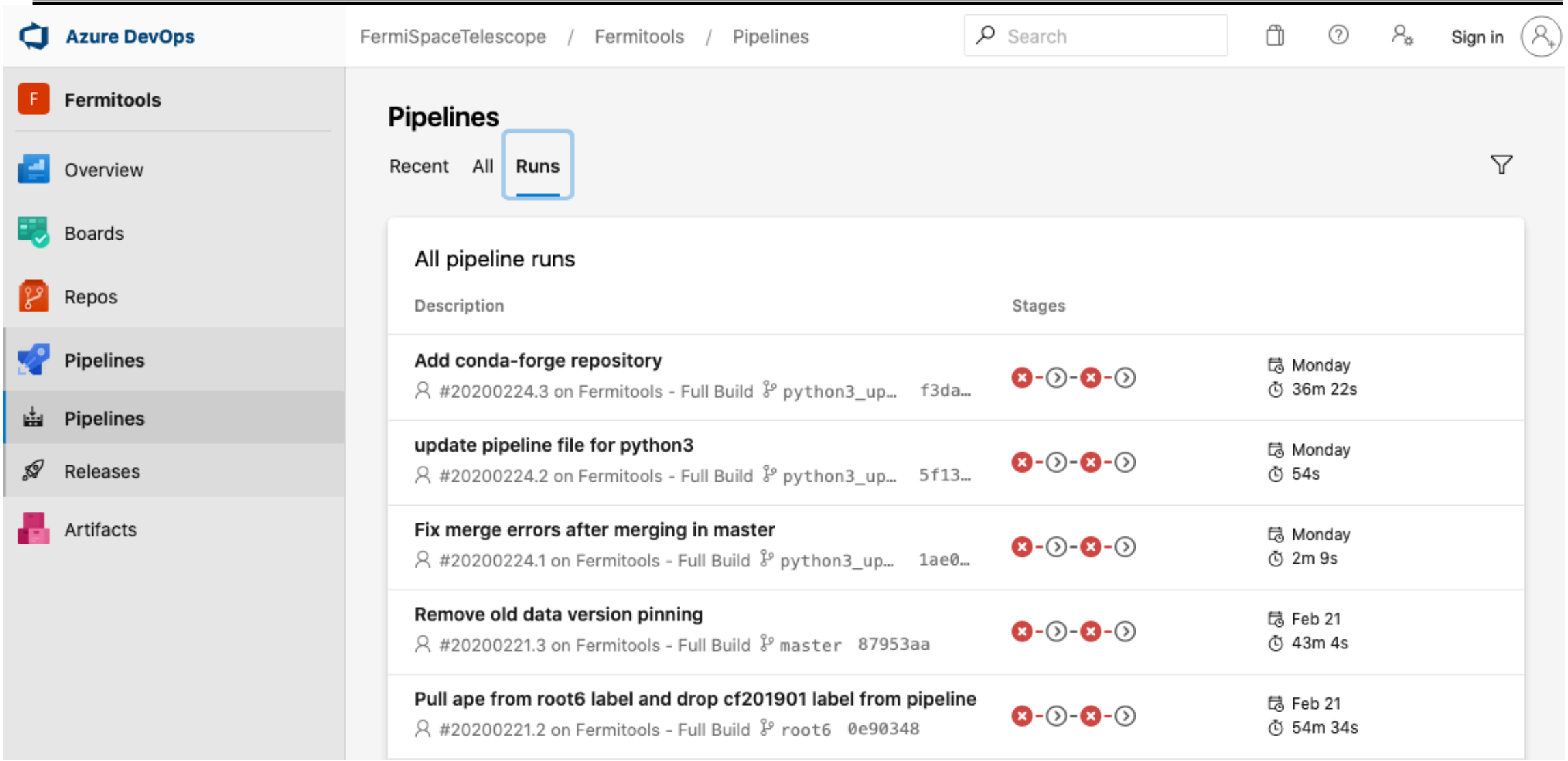
Azure Pipeline Runs



Anaconda Cloud

fermi / packages / fermitools

1

Conda | Files | Labels | Badges

Filters

Type: All | Version: All | Label: All

Type	Size	Name	Uploaded	Uploader	Downloads	Labels
conda	164.1 MB	linux-64/fermitools-1.2.23-py27h39e3cac_0.tar.bz2	22 days and 4 hours ago	jasercion	161	main
conda	89.7 MB	osx-64/fermitools-1.2.23-py27h39e3cac_0.tar.bz2	24 days and 23 hours ago	jasercion	45	main
conda	89.7 MB	osx-64/fermitools-1.2.22-py27h39e3cac_0.tar.bz2	25 days and 13 minutes ago	jasercion	1	dev
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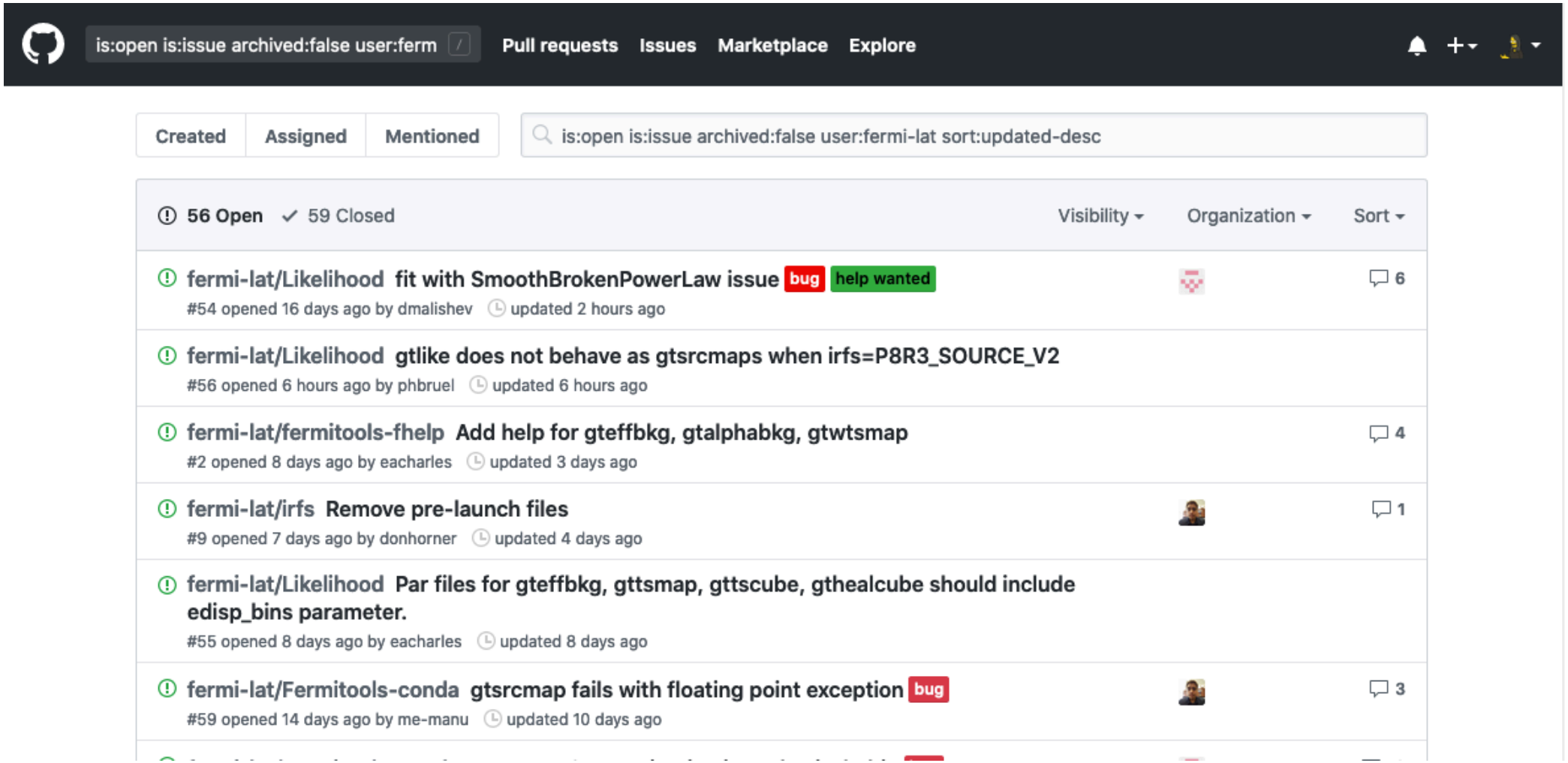
Github Tracker



Fermitools Status

- User Documentation updates
  - Switch to Jupyter notebooks
- Documenting how to use Azure pipeline, etc.
- Answering questions via helpdesk email and Github
  - Increasingly getting things through Github issue tracker

LAT Data Server Upgrade

- Current data server runs on old hardware
  - Photon and spacecraft data are served from cluster of 10 nodes purchased in 2007.
  - Events and 1s spacecraft are handled by single machine from 2011.
  - Photon and event data are stored on disk in HTM FITS files.
- Replacing with 5 new servers.
  - Better CPU and more RAM.
  - Using NVME SSDs to increase I/O.
  - Limiting factor in data server speed is disk I/O.
- Will greatly reduce query times.
- Will be able to add new capabilities.
  - Need to determine what those will be.
- New machines might ship to the FSSC this week after various delays.

SLAC Tasks Status

- Various tasks have been successfully transferred to FSSC and others.
  - LAT mission planning mostly transferred to FSSC
    - Rob Cameron is still necessary for some things.
  - Tom, Michael, Helen are maintaining the pipeline and fixing problems as they arise with outside help as needed.
  - Backup and Archiver checkups done by Don now.
  - L1 Calibration updates by Tom, Don, Joe Eggen, and Tyrell.
- Spacecraft (FT2) file reprocessing
- Pipeline knowledge
  - Maria Elena training Nicola.
  - Need new compile and install new version
- Phase out of SL6 in favor of Centos7
  - Brian and Tom working on containerizing pipeline.
  - Batch farm – new machines coming

Spacecraft (FT2) File Reprocessing

- Primary change is to add velocity information.
  - Requested by pulsar community.
- Also improved calculation for geodetic latitude and altitude.
- International Geomagnetic Reference Field (IGRF) needs to be update.
- Current status
  - Fixing old runs
  - Code for geo changes was updated and tested.
  - IGRF update?
- About 60k files to reprocess, deliver, and ingest at FSSC
- Timeframe
  - Several weeks to remake all the files
  - Need to be careful not to overload and interfere with production pipeline
  - At least a week to ingest at FSSC