



Fermi

Gamma-ray Space Telescope

# Fermi Science Support Center Online Services

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FSSC Archive and Data Operations Manager

Proposer Workshop, January 24, 2023

- **The FSSC provides various online services for Fermi users and proposers.**
- **They are available at the FSSC website:**  
[fermi.gsfc.nasa.gov/ssc](http://fermi.gsfc.nasa.gov/ssc)
- **These services include:**
  - **Data archive**
  - **Data analysis tools**
  - **Documentation on using the tools including tutorials**
  - **User support services**
  - **Proposer information**

# Fermi Data Archive

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- **List of currently available data products:** <https://fermi.gsfc.nasa.gov/ssc/data/access/>
- **Fermi LAT Data Server**
  - Query for LAT data by position, time, energy range
  - Moved to faster hardware last year
- **HEASARC Browse**
  - LAT Weekly files
  - GBM Daily, Trigger, and Burst data
  - Catalogs
- **Some products can be directly accessed on the FTP Site**
  - Weekly photon and spacecraft files
  - Mission long spacecraft file
  - GBM Data
- **Separate pages for catalogs like 4FGL and the Light Curve Repository**

- **List of available analysis software at FSSC:**  
<https://fermi.gsfc.nasa.gov/ssc/data/analysis>
- **Fermitools**
  - Distributed via the Conda package manager. Code is on Github.
  - Available for Linux and MacOS.
  - Installation instructions on website (really on Github wiki).
- **GBM Data Tools**
  - Python based software for GBM analysis.
- **User contributed software**
  - Not supported by FSSC but we maintain a list.
- **Documentation**
  - Descriptions of analysis environment and techniques
  - Analysis Threads with step-by-step descriptions of some standard analyses
  - Video tutorials are available for some analyses

# Obtaining Help

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- **FSSC Helpdesk**
  - Email [fermihelp@milkyway.gsfc.nasa.gov](mailto:fermihelp@milkyway.gsfc.nasa.gov)
  - General queries, analysis help, etc.
  - Approximately 4900 queries since the start of the mission.
- **Github issue tracker**
  - See <https://github.com/fermi-lat/Fermitools-conda/wiki/Error-Reporting>
  - Useful for Fermitools specific questions
  - Public
  - Easier to track

# Mailing Lists

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- **Fermi maintains several mailing lists. These mailing lists are moderated, and your subscription must be approved by the list moderator.**
  - **fermi-news - General news about the Fermi mission**
  - **fermi-soft - Updates on the analysis software and science data**
  - **fermi-papers - Updates on Fermi related papers**
  - **gammamw - Information on multiwavelength observations relevant to Fermi**
- **Subscribe to a list by sending an e-mail to LISTNAME-join@lists.nasa.gov (no subject or text in the body is required).**
- **After you fill out the relevant subscription form you will receive an e-mail requesting verification of your subscription request, and then approval of your subscription by the moderator.**
- **More information at <https://fermi.gsfc.nasa.gov/ssc/library/newsletter/>**

# Other Services

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- **Mission Timeline**
  - Tells you what Fermi was doing any any given time
  - <https://fermi.gsfc.nasa.gov/ssc/observations/timeline/posting/>
- **Fermi Bibliography Search**
  - [https://fermi.gsfc.nasa.gov/cgi-bin/bibliography\\_fermi](https://fermi.gsfc.nasa.gov/cgi-bin/bibliography_fermi)
- **Fermi Trigger Information (GCN)**
  - [https://gcn.gsfc.nasa.gov/fermi\\_grbs.html](https://gcn.gsfc.nasa.gov/fermi_grbs.html)
- **HEASARC xTime – convert from, e.g., MET to dates**
  - <https://heasarc.gsfc.nasa.gov/cgi-bin/Tools/xTime/xTime.pl>
- **Fermi mission history**
  - <https://fermi.gsfc.nasa.gov/ssc/library/history/>

# Additional Slides

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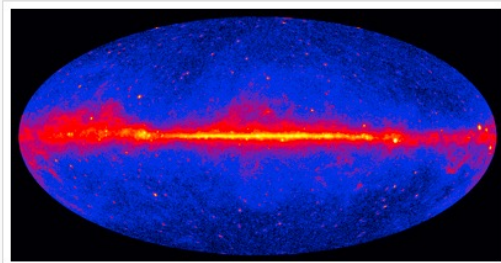
- **The following slides are not part of the main presentation but provide additional material.**



## Fermi Gamma-ray Space Telescope

[Home](#) [Support Center](#) [Observations](#) [Data](#) [Proposals](#) [Library](#) [HEASARC](#) [Help](#)

The Fermi Science Support Center (FSSC) runs the guest investigator program, creates and maintains the mission time line, provides analysis tools for the scientific community, and archives and serves the Fermi data. This web site is the portal to Fermi for all guest investigators.



This view shows the entire sky at energies greater than 1 GeV based on five years of data from the LAT instrument on NASA's Fermi Gamma-ray Space Telescope. Brighter colors indicate brighter gamma-ray sources.  
*Image Credit: NASA/DOE/Fermi LAT Collaboration*

Look into the "Resources" section for finding schedules, publications, useful links etc. The "Proposals" section is where you will be able to find the relevant information and tools to prepare and submit proposals for guest investigator projects. At "Data" you will be able to access the Fermi databases and find the software to analyse them. Address all questions and requests to the helpdesk in "Help".

### Quicklinks

- » [Fermi Homepage](#)
- » [LAT Analysis Start Page](#)
- » [Multiwavelength Observation Reporting Form](#)
- » [Fermi User's Group \(FUG\)](#)
- » [Fermi Guest Investigator Program](#)
- » [Post-Anomaly Observing Strategy](#)
- » [Fermi TOO request](#)
- » [LAT Monitored Sources](#)
- » [LAT Instrument Performance](#)
- » [GBM Instrument Performance](#)
- » [Public Fermi Website](#)
- » [Fermi at the ASDC](#)
- » [General Fermi Questions](#)
- » [Newsletters](#)

### Fermi Observations for MW 658

Mission week 658 starts with a continuation of the modified sine rocking profile from the previous week, which has a 5716 second repeat period. On day of year 007 (2021-01-07) at 00:20 there is a 10 minute freeze observation during which an updated modified sine rocking profile with a 5713 second repeat period is loaded. Then, on DOY 011 (2021-01-11) at 12:24 there is a second freeze observation during which a -50/+60 degree rocking profile is loaded. This profile continues until the end of the week. Note that positive rock angles are south, and negative angles are north.

» [More Timeline Info](#)

### Latest News

- » [Fermi Sky Blog](#)
- » [Fermi Blog](#)

**Nov 4, 2020**

#### NASA Missions Help Pinpoint the Source of a Unique X-ray, Radio Burst

On April 28, a supermagnetized stellar remnant known as a magnetar blasted out a simultaneous mix of X-ray and radio signals never observed before. The flare-up included the first fast radio burst (FRB) ever seen from within our Milky Way galaxy and shows that magnetars can produce these mysterious and powerful radio blasts previously only seen in other galaxies.

+ [Read More](#)

**Sep 18, 2020**


#### Fermi LAT Resumes Normal Operations

The LAT instrument has resumed collection of science data following an outage on September 17 to recover from a reboot of one of the onboard processors. The LAT was not collecting science data for 11 hours between 9:28 UTC and 20:28 UTC.

**Aug 25, 2020**

#### NASA Missions Explore a 'TIE Fighter' Active Galaxy

# Fermitools Github



## Fermi Gamma-Ray Space Telescope

Orbit <https://fermi.gsfc.nasa.gov>

Repositories 164 Packages People 26 Teams 1 Projects 1

Find a repository... Type: All Language: All [New](#)

### xmlBase

C++ BSD-3-Clause 0 0 0 0 Updated 21 hours ago

### tip

C++ BSD-3-Clause 0 0 0 0 Updated 21 hours ago

### timeSystem

C++ BSD-3-Clause 0 0 0 0 Updated 21 hours ago

### st\_stream

C++ BSD-3-Clause 0 1 0 0 Updated 21 hours ago

### STRcontainerSettings

ScienceTools-with-root configuration

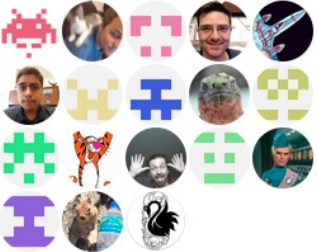
Python BSD-3-Clause 0 0 0 0 Updated 21 hours ago

### Top languages

C++ Python Shell C Dockerfile

### People

26 >



# Azure Pipeline Runs

Fermitools

Overview

Boards

Repos

Pipelines

Pipelines

































Releases

Artifacts

## Pipelines

Recent **Runs**



Description	Stages	
<b>Manually reset patch number</b> #20190926.6 on Fermitools - Full Build  master fff6bd9	 -  -  - 	Yesterday 1h 4m 13s
<b>Update Env variable</b> #20190926.6 on modelEditor  master db334f4	 -  -  -  - 	Yesterday 6m 30s
<b>Patch iteration triggered by pulsarDb repository.</b> #20190926.5 on Fermitools - Full Build  master cf3b973	 -  -  - 	Yesterday 1h 6m 12s
<b>Update syntax</b> #20190926.5 on modelEditor  master 8c73322	 -  -  -  - 	Yesterday 6m 52s
<b>Patch iteration triggered by pulsarDb repository.</b> #20190926.4 on Fermitools - Full Build  master cf3b973	 -  -  - 	Yesterday 1h 4m 12s
<b>Patch iteration triggered by pulsarDb repository.</b> #20190926.3 on Fermitools - Full Build  master cf3b973	 -  -  - 	Yesterday 30m 15s

## fermi / packages / fermitools

☆ 1

- Conda
- Files**
- Labels
- Badges

**Filters**

Type: All ▾      Version: All ▾      Label: All ▾

<input type="checkbox"/>	Type	Size	Name	Uploaded	Uploader	Downloads	Labels
<input type="checkbox"/>	conda	90.0 MB	<a href="#">osx-64/fermitools-1.1.8-py27h39e3cac_0.tar.bz2</a>	1 day and 21 minutes ago	jasercion	4	dev
<input type="checkbox"/>	conda	151.2 MB	<a href="#">linux-64/fermitools-1.1.8-py27h39e3cac_0.tar.bz2</a>	1 day and 22 minutes ago	jasercion	1	dev
<input type="checkbox"/>	conda	90.0 MB	<a href="#">osx-64/fermitools-1.1.106-py27h39e3cac_1.tar.bz2</a>	1 day and 1 hour ago	jasercion	2	dev
<input type="checkbox"/>	conda	151.1 MB	<a href="#">linux-64/fermitools-1.1.106-py27h39e3cac_1.tar.bz2</a>	1 day and 1 hour ago	jasercion	1	dev
<input type="checkbox"/>	conda	90.0 MB	<a href="#">osx-64/fermitools-1.1.106-py27h39e3cac_0.tar.bz2</a>	1 day and 2 hours ago	jasercion	2	dev
<input type="checkbox"/>	conda	151.1 MB	<a href="#">linux-64/fermitools-1.1.106-py27h39e3cac_0.tar.bz2</a>	1 day and 2 hours ago	jasercion	1	dev
<input type="checkbox"/>	conda	163.7 MB	<a href="#">linux-64/fermitools-1.1.7-py27h39e3cac_0.tar.bz2</a>	2 months and 16 days ago	jasercion	19	dev
<input type="checkbox"/>	conda	89.6 MB	<a href="#">osx-64/fermitools-1.1.7-py27h39e3cac_0.tar.bz2</a>	2 months and 16 days ago	jasercion	9	dev
<input type="checkbox"/>	conda	163.7 MB	<a href="#">linux-64/fermitools-1.0.10-py27h39e3cac_0.tar.bz2</a>	2 months and 16 days ago	jasercion	514	main
<input type="checkbox"/>	conda	89.7 MB	<a href="#">osx-64/fermitools-1.0.10-py27h39e3cac_0.tar.bz2</a>	2 months and 16 days ago	jasercion	146	main

🐙

Pull requests
Issues
Marketplace
Explore
🔔
+
👤

Created
Assigned
Mentioned

🔍

<span style="font-size: 18px; color: #0070c0;">!</span> 41 Open <span style="margin-left: 10px;">✓ 45 Closed</span> <span style="float: right; font-size: 14px;">Visibility ▾ Organization ▾ Sort ▾</span>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Fermitools-conda</b> <b>AttributeError: 'module' object has no attribute 'new_table'</b></p> <p>#42 opened 24 days ago by Sanjuphysics12 <span style="font-size: 14px;">🕒 updated 15 hours ago</span></p> </div> <div style="text-align: right; font-size: 18px;">🇩🇪</div> <div style="text-align: right; font-size: 18px;">💬 2</div> </div>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Fermitools-conda</b> <b>Have tools put version in CREATOR keyword enhancement</b></p> <p>#28 opened on Mar 7 by donhorner <span style="font-size: 14px;">🕒 updated 15 days ago</span></p> </div> <div style="text-align: right; font-size: 18px;">👤</div> <div style="text-align: right; font-size: 18px;">💬 4</div> </div>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Fermitools-conda</b> <b>Python3 roadmap?</b></p> <p>#44 opened 21 days ago by paulray <span style="font-size: 14px;">🕒 updated 16 days ago</span></p> </div> <div style="text-align: right; font-size: 18px;">👤</div> <div style="text-align: right; font-size: 18px;">💬 3</div> </div>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Likelihood</b> <b>gtsrcmap: Problem on the creation of the source maps with the new spectral functions in the 4FGL</b></p> <p>#46 opened 22 days ago by principe91 <span style="font-size: 14px;">🕒 updated 18 days ago</span></p> </div> <div style="text-align: right; font-size: 18px;">🇩🇪</div> <div style="text-align: right; font-size: 18px;">💬 5</div> </div>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Fermitools-conda</b> <b>fermitools behaviour sensitive to the linux version</b></p> <p>#43 opened 22 days ago by landriu <span style="font-size: 14px;">🕒 updated 22 days ago</span></p> </div> <div style="text-align: right; font-size: 18px;">👤</div> <div style="text-align: right; font-size: 18px;">💬 2</div> </div>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Fermitools-conda</b> <b>Caught St13runtime_error at the top level: RoiCuts::sortCuts:</b></p> <p>#40 opened 27 days ago by Sanjuphysics12 <span style="font-size: 14px;">🕒 updated 24 days ago</span></p> </div> <div style="text-align: right; font-size: 18px;">🇩🇪</div> <div style="text-align: right; font-size: 18px;">💬 3</div> </div>
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="font-size: 18px; color: #0070c0;">!</div> <div> <p><b>fermi-lat/Fermitools-conda</b> <b>gtlctube execution failed during light curve generation</b></p> <p>#39 opened on Aug 27 by Sanjuphysics12 <span style="font-size: 14px;">🕒 updated 29 days ago</span></p> </div> <div style="text-align: right; font-size: 18px;">🇩🇪</div> <div style="text-align: right; font-size: 18px;">💬 3</div> </div>



# Fermi Timeline

## Fermi Timeline Posting

[FSSC](#) » [Observations](#) » [Timeline](#)

### MW 658

Mission week 658 starts with a continuation of the modified sine rocking profile from the previous week, which has a 5716 second repeat period. On day of year 007 (2021-01-07) at 00:20 there is a 10 minute freeze observation during which an updated modified sine rocking profile with a 5713 second repeat period is loaded. Then, on DOY 011 (2021-01-11) at 12:24 there is a second freeze observation during which a -50/+60 degree rocking profile is loaded. This profile continues until the end of the week. Note that positive rock angles are south, and negative angles are north. (updated: 31-Dec-2020)

### MW 659

Mission week 659 starts with a continuation of the -50/+60 degree rocking profile from the previous week. On day of year 014 (2021-01-14) at 06:50UT there is a 10 minute freeze observation during which a symmetric +/- 50deg rocking profile is loaded. This profile continues until the end of the week. Note that positive rock angles are south, and negative angles are north. (updated: 23-Dec-2020)

### MW 660

Mission week 660 starts with a continuation of the symmetric +/- 50 deg. rocking profile from the previous week. On day of year 21 (2021-01-21) at 02:12 there is a 10 minute freeze observation during which an updated symmetric profile is loaded. This profile continues until the end of the week. Note that positive rock angles are south, and negative angles are north. (updated: 30-Dec-2020)

This utility allows you to view Fermi's observing timeline. It defaults to the current AO cycle, but you can also view past AO cycles, along with timelines showing a summary of the Targets of Opportunity (TOO), Automatic Re-pointing Request (ARR), other pointed observations, and non-science periods. Explanations of the columns can be found in the [glossary](#).

Pointed observations (like TOOs and ARRs) that interrupted the schedule are indicated in bold. Preliminary scheduled observations are indicated in italics.

**Note:** Updates to this page can be delayed by unexpected timeline changes. For information about on-going Target-of-Opportunity observations, check the [Approved TOOs](#) page.

**Note:** If you have JavaScript enabled on your browser, you may click on column names to sort by that column.

<b>AO13</b>	AO12	AO11	AO10	AO9	AO8	AO7	AO6	AO5	AO4	AO3	AO2	AO1	TOO	ARR	POINTED	NON-SCIENCE
-------------	------	------	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	---------	-------------

#	Obs ID	Mission Week	Start Time (UTC)	Stop Time (UTC)	Duration (sec)	RA (J2000)	Dec (J2000)	Mode	Type	Target	PI	Notes
1	130400-28-1	660	2021:021:02:22:00 2021-01-21 02:22:00	2021:028:00:00:00 2021-01-28 00:00:00	596280			Profiled	Survey	50 deg profile week MW660 - Part 2	Fermi	50deg; orbit period 5713 sec; +/- 50deg rock angle over 2 orbits
2	130801-68-1	660	2021:021:02:12:00 2021-01-21 02:12:00	2021:021:02:22:00 2021-01-21 02:22:00	600	254.6803	-65.20575	Pointed	Freeze	Freeze for loading 130400-28-1	TAKO	Inserted by TAKO at 2021-021-02:12:00
3	130400-27-1	660	2021:021:00:00:00 2021-01-21 00:00:00	2021:021:02:12:00 2021-01-21 02:12:00	7920			Profiled	Survey	50 deg profile week MW660 - Part 1	Fermi	50deg; orbit period 5713 sec; +/- 50deg rock angle over 2 orbits
4	130400-26-1	659	2021:014:07:00:00 2021-01-14 07:00:00	2021:021:00:00:00 2021-01-21 00:00:00	579600			Profiled	Survey	50 deg profile week MW659	Fermi	50deg; orbit period 5713 sec; +/- 50deg rock angle over 2 orbits