

# The Planck products and the Planck Legacy Archive

M. López-Caniego ESAC Science Data Centre - Aurora Technology for ESA

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ESA UNCLASSIFIED - Releasable to the Public



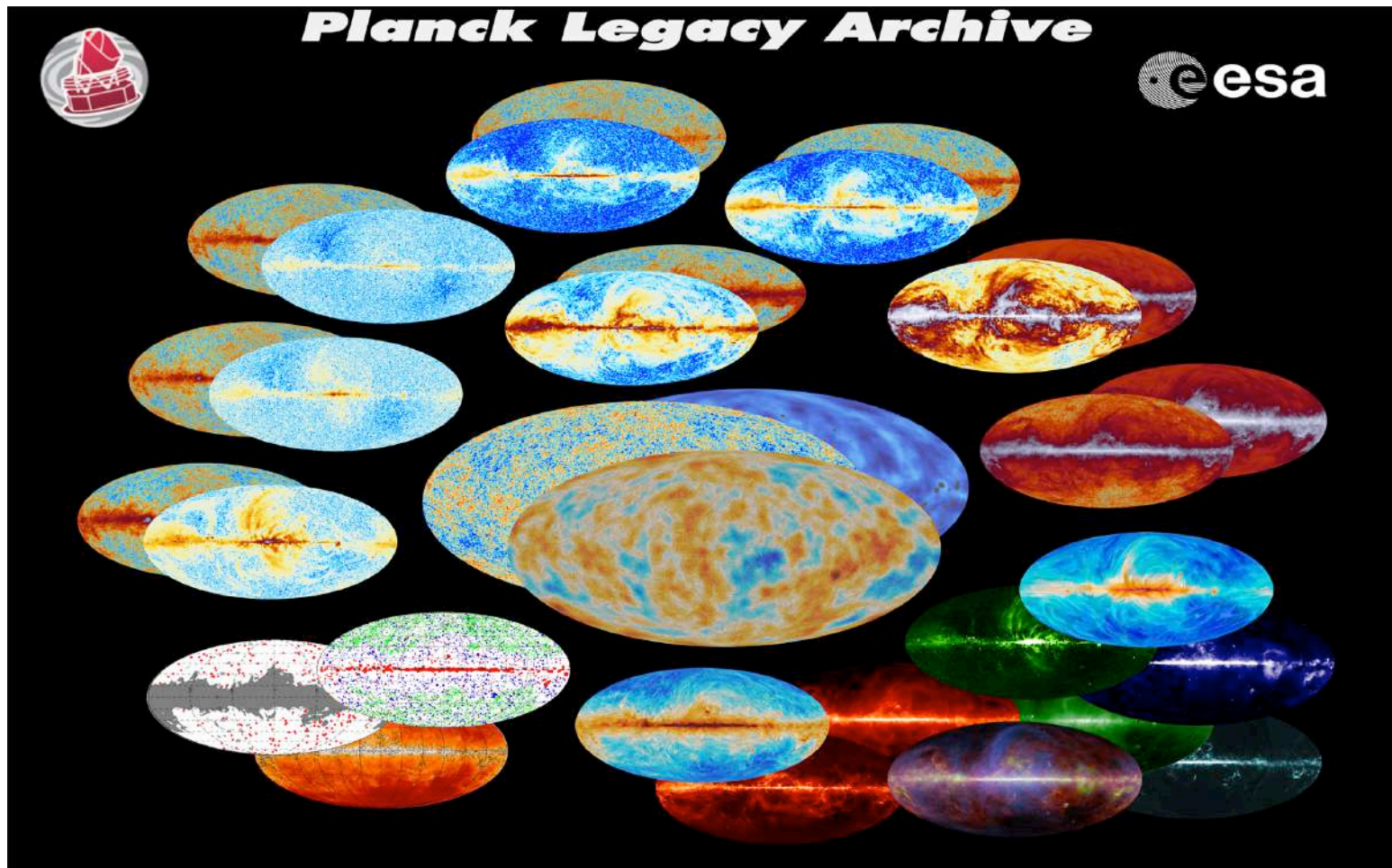
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European Space Agency

# The Planck Legacy Archive



The PLA host over 200 TBs of products from the Planck Mission.



<http://pla.esac.esa.int>



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# The Planck Legacy Archive



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## Planck Legacy Archive

**WELCOME TO THE PLANCK LEGACY ARCHIVE**

The Planck Legacy Archive provides online access to all official data products generated by the Planck mission.

Quick product search by file name

**LATEST NEWS**

[Planck 2018 Likelihood release](#)  
The Planck 2018 results Likelihood Code, baseline likelihoods and extensions have been released today in the PLA. The accompanying publication has been submitted to A&A and is available in <https://arxiv.org/abs/1907.12875>. In addition, updated cosmological parameter chains have been released too.

2019-07-31 [Planck Science Office](#)

**PLANCK LEGACY ARCHIVE CONTENTS**

- MAPS**
- CATALOGUES**
- COSMOLOGY**
- TIMELINES AND RINGS**
- SOFTWARE, BEAMS AND INSTRUMENT MODEL**
- OPERATIONAL DATA**

**USEFUL INFORMATION**

- EXPLANATORY SUPPLEMENT**
- EXTERNAL DATA AND SOFTWARE**
- COLLABORATION PAPERS**
- USE OF PLANCK DATA**
- UPDATE HISTORY**
- PLANCK SCIENCE TEAM HOME**
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# The Planck Legacy Archive: Frequency Maps



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## Planck Legacy Archive



Available Data Sets: PR1-2013 | PR2-2015 | PR3-2018 | **Legacy** (Selection of PR1-2013, PR2-2015 and PR3-2018) | PR4-2020



Search through all maps stored in the Planck Legacy Archive.

- Use the **matrix** for quick downloads and the **advanced search** facility to perform map operations and/or to download specific products.
- Use **Aladin Lite** to visualize the maps, or send them to external applications .
- **Click** on the *(f)* icon to carry out operations (change units, colour correct, transform bandpass, etc) on the selected map(s) or sub-map(s).

### MAPS

**Frequency maps** | CMB maps | Foreground maps | Correction maps | Masks | Simulations | DatesObs maps | External maps

**Only legacy products** Release

[Explanatory Supplement](#)

BPL Corrected  BPL Uncorrected

Light maps

Single-frequency

Multi-detector

Single-detector

|              | 30GHz NS1024 | 44GHz NS1024 | 70GHz NS1024 | 100GHz NS2048 | 143GHz NS2048 | 217GHz NS2048 | 353GHz NS2048 | 545GHz NS2048 | 857GHz NS2048 |
|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|
| FULL MISSION | (144 MB)     | (144 MB)     | (144 MB)     | (576 MB)      | (576 MB)      | (576 MB)      | (576 MB)      | (192 MB)      | (192 MB)      |

**ADVANCED SEARCH & MAP OPERATIONS**

**OPERATIONS ON RESTRICTED MAP SETS**

# The Planck Legacy Archive: Frequency Maps



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### MAPS

Frequency maps | CMB maps | Foreground maps | Correction maps | Masks | Simulations | DatesObs maps | External maps

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- Frequency maps**
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- Foreground maps
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### ADVANCED SEARCH & MAP OPERATIONS

### OPERATIONS ON RESTRICTED MAP SETS



# The Planck Legacy Archive: Foreground Maps



## Planck Legacy Archive



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### MAPS

Frequency maps CMB maps **Foreground maps** Correction maps Masks Simulations DatesObs maps External maps

Only legacy products Release PR3 - 2018

[Explanatory Supplement](#)

AME CIB CO Compton-SZmap **Dust** CMB-subtracted maps Free-free ISW Low-freq Fgd Synchrotron SZ Xline

### RESULTS



PR1 PR2 PR3 PR4

0 selected items

|                          |  |  |  |  | Description | Map name   | Method   | Size  |        |
|--------------------------|--|--|--|--|-------------|--|--|-------|--------|
| <input type="checkbox"/> |  |  |  |  |             | 2018 Stokes I, Q and U Thermal Dust map from GNILC at variable resolution. | COM_CompMap_IQU-thermaldust-gnilc-varres_2048_R3.00.fits | gnilc | 1.9 GB |
| <input type="checkbox"/> |  |  |  |  |             | 2018 Stokes Q and U full mission Thermal Dust map from SMICA.              | COM_CompMap_QU-thermaldust-smica_2048_R3.00_full.fits    | smica | 384 MB |
| <input type="checkbox"/> |  |  |  |  |             | 2018 Stokes Q and U half mission 1 Thermal Dust map from SMICA.            | COM_CompMap_QU-thermaldust-smica_2048_R3.00_hm1.fits     | smica | 384 MB |
| <input type="checkbox"/> |  |  |  |  |             | 2018 Stokes Q and U half mission 2 Thermal Dust map from SMICA.            | COM_CompMap_QU-thermaldust-smica_2048_R3.00_hm2.fits     | smica | 384 MB |
| <input type="checkbox"/> |  |  |  |  |             | 2018 Stokes Q and U odd-even 1 Thermal Dust map from SMICA.                | COM_CompMap_QU-thermaldust-smica_2048_R3.00_oe1.fits     | smica | 384 MB |
| <input type="checkbox"/> |  |  |  |  |             | 2018 Stokes Q and U odd-even 2 Thermal Dust map from SMICA.                | COM_CompMap_QU-thermaldust-smica_2048_R3.00_oe2.fits     | smica | 384 MB |

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# The Planck Legacy Archive: Foreground Maps



## Planck Legacy Archive



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**MAPS**

Frequency maps | CMB maps | Foreground maps | Correction maps | Masks | **Simulations** | DatesObs maps | External maps

Only legacy products Release PR3 - 2018 [Explanatory Supplement](#)

CMB | Foreground | Noise | Total

Note that for reference we include here the CMB and Noise simulation '0'. The rest of the simulations can be found in the Advanced Search panel specific for simulations.

**RESULTS**

PR1 PR2 PR3 PR4 0 selected items

|                          | File name   | Size   | MC realization | Comp Sep Metho | Comp Sep Type | CMB type | Period | Frequency | Version |
|--------------------------|---|--------|----------------|----------------|---------------|----------|--------|-----------|---------|
| <input type="checkbox"/> | <a href="#">febecop_ffp10_lensed_scl_cmb_030_nr</a> | 144 MB | 0              | NA             | NA            | scl      | full   | 30        | ffp10   |
| <input type="checkbox"/> | <a href="#">febecop_ffp10_lensed_scl_cmb_044_nr</a> | 144 MB | 0              | NA             | NA            | scl      | full   | 44        | ffp10   |
| <input type="checkbox"/> | <a href="#">febecop_ffp10_lensed_scl_cmb_070_nr</a> | 144 MB | 0              | NA             | NA            | scl      | full   | 70        | ffp10   |
| <input type="checkbox"/> | <a href="#">febecop_ffp10_lensed_scl_cmb_100_nr</a> | 576 MB | 0              | NA             | NA            | scl      | full   | 100       | ffp10   |
| <input type="checkbox"/> | <a href="#">febecop_ffp10_lensed_scl_cmb_143_nr</a> | 576 MB | 0              | NA             | NA            | scl      | full   | 143       | ffp10   |
| <input type="checkbox"/> | <a href="#">febecop_ffp10_lensed_scl_cmb_217_nr</a> | 576 MB | 0              | NA             | NA            | scl      | full   | 217       | ffp10   |








# The Planck Legacy Archive: Advanced Search

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## Planck Legacy Archive



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### MAPS

### ADVANCED SEARCH & MAP OPERATIONS

#### Map search

#### Simulated maps search

[Explanatory Supplement](#) 

#### Map Type

- All
- Frequency
- CMB
- Foreground
- Correction
- Mask
- DatesObs

Only legacy products

Only last version maps

Category

Release

Light map

Nside

File name

e.g. File name (wildcard=%)

Instrument

Frequency

Period

Bandpass corrected

Zodi corr

Ring half

Deconvolved



Include detector maps

Include detector set maps

### OPERATIONS ON RESTRICTED MAP SETS








# The Planck Legacy Archive: Advanced Search


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Available Data Sets:  PR1-2013 |  PR2-2015 |  PR3-2018 | **Legacy** (Selection of  PR1-2013,  PR2-2015 and  PR3-2018) |  PR4-2020

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### MAPS

### ADVANCED SEARCH & MAP OPERATIONS

Map search **Simulated maps search**

[Explanatory Supplement](#) 

Select one or more categories

- ▼ **COMP\_SEPARATION**
- ▶ commander
- ▶ NA
- ▶ nilc
- ▶ sevem
- ▶ smica

**Only legacy products**

Release

File name

e.g. File name (wildcard=%)

Period

Instrument

Frequency

MC number  -

Version

 **Submit**  **Clear**

### OPERATIONS ON RESTRICTED MAP SETS








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
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#### Map Type

- All
- Frequency**
- Foreground
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**Only legacy products**

Only last version maps

Category

Release

Light map

Nside

File name

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Bandpass corrected

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Ring half

Deconvolved

Include detector maps

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### OPERATIONS ON RESTRICTED MAP SETS

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## Planck Legacy Archive



RESULTS Close All << < Maps #1 > >>

FREQUENCY MAPS (26) X

PR1 PR2 PR3 PR4  Only legacy products 0 selected items [Explanatory Supplement](#)

| <input type="checkbox"/> |  |  |  | Map name   | Size   | Frequency | Period | BPassCorrected | Zodicorrected | Ringhalf | Instrument | NSide | Release |
|--------------------------|--|--|--|--|--------|-----------|--------|----------------|---------------|----------|------------|-------|---------|
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 30        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB | 30        | Full   | no             | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_030_1024_R3.00_full.fits                              | 480 MB | 30        | Full   | no             | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_030-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 30        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_044-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 44        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_044-field-IQU_1024_R3.00_full.fits                    | 144 MB | 44        | Full   | no             | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB | 44        | Full   | no             | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_044-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 44        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_070_1024_R3.00_full.fits                              | 480 MB | 70        | Full   | no             | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_070-field-IQU_1024_R3.00_full.fits                    | 144 MB | 70        | Full   | no             | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_070-BPassCorrected-tpl-field-IQU_1024_R3.00_full.fits | 144 MB | 70        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_070-BPassCorrected-tpl_1024_R3.00_full.fits           | 480 MB | 70        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 70        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 70        | Full   | yes            | no            | N/A      | LFI        | 1024  | PR3     |
| <input type="checkbox"/> |  |  |  | HFI_SkyMap_100_2048_R3.01_full.fits                              | 1.9 GB | 100       | Full   | yes            | no            | N/A      | HFI        | 2048  | PR3     |
| <input type="checkbox"/> |  |  |  | HFI_SkyMap_100-field-IQU_2048_R3.00_full.fits                    | 576 MB | 100       | Full   | yes            | no            | N/A      | HFI        | 2048  | PR3     |
| <input type="checkbox"/> |  |  |  | HFI_SkyMap_143_2048_R3.01_full.fits                              | 1.9 GB | 143       | Full   | yes            | no            | N/A      | HFI        | 2048  | PR3     |
| <input type="checkbox"/> |  |  |  | HFI_SkyMap_143-field-  | 576 MB | 143       | Full   | yes            | no            | N/A      | HFI        | 2048  | PR3     |

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# The Planck Legacy Archive: Advanced Search



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## Planck Legacy Archive



**RESULTS** Close All << < **Maps #1** > >>

**FREQUENCY MAPS (26) X**

PR1 PR2 PR3 PR4  Only legacy products 0 selected items [Explanatory Supplement](#)

| <input type="checkbox"/> |  |  |  |  | Map name | Size   | Frequency | Period | BPassCorrected | Zodicorrected | Ringhalf | Instrument | NSide | Release |     |
|--------------------------|--|--|--|--|----------|--|-----------|--------|----------------|---------------|----------|------------|-------|---------|-----|
| <input type="checkbox"/> |  |  |  |  |          | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB    | 30     | Full           | yes           | no       | N/A        | LFI   | 1024    | PR3 |
| <input type="checkbox"/> |  |  |  |  |          | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB    | 30     | Full           | no            | no       | N/A        | LFI   | 1024    | PR3 |
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| <input type="checkbox"/> |  |  |  |  |          | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB    | 44     | Full           | no            | no       | N/A        | LFI   | 1024    | PR3 |
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| <input type="checkbox"/> |  |  |  |  |          | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB    | 70     | Full           | yes           | no       | N/A        | LFI   | 1024    | PR3 |
| <input type="checkbox"/> |  |  |  |  |          | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB    | 70     | Full           | yes           | no       | N/A        | LFI   | 1024    | PR3 |
| <input type="checkbox"/> |  |  |  |  |          | HFI_SkyMap_100_2048_R3.01_full.fits                              | 1.9 GB    | 100    | Full           | yes           | no       | N/A        | HFI   | 2048    | PR3 |
| <input type="checkbox"/> |  |  |  |  |          | HFI_SkyMap_100-field-IQU_2048_R3.00_full.fits                    | 576 MB    | 100    | Full           | yes           | no       | N/A        | HFI   | 2048    | PR3 |
| <input type="checkbox"/> |  |  |  |  |          | HFI_SkyMap_143_2048_R3.01_full.fits                              | 1.9 GB    | 143    | Full           | yes           | no       | N/A        | HFI   | 2048    | PR3 |
| <input type="checkbox"/> |  |  |  |  |          | HFI_SkyMap_143-field-  | 576 MB    | 143    | Full           | yes           | no       | N/A        | HFI   | 2048    | PR3 |

of 1 Page size: 100

Displaying 1-26 of 26

# The Planck Legacy Archive: Advanced Search



EUROPEAN SPACE AGENCY SCIENCE & TECHNOLOGY

SIGN IN

## Planck Legacy Archive



RESULTS

Close All << < Maps #1 > >>

Location: DSS SDSS 2MASS WISE GALEX PLANCK AKARI XMM Fermi Gaia Simbad NED +

Frame Gal Projection Sinus

FREQUENCY MAPS (26) X

I-STOKES

360° x 180°

| NAME        | GLON     | GLAT     | RA       | DEC      | DETFLUX  | DETFLUX... | APERFLUX | APERFLUX... | PSFFLUX  | PSFFLUX... | GAUFLUX  |
|-------------|----------|----------|----------|----------|----------|------------|----------|-------------|----------|------------|----------|
| PCCS2_03... | 301.3349 | -24.3629 | 165.0265 | -86.8831 | 387.9269 | 84.44865   | 1199.539 | 371.7873    | 1278.304 | 171.7020   | 1076.796 |
| PCCS2_03... | 302.1390 | -20.4150 | 186.5265 | -83.2477 | 541.3810 | 82.59971   | 811.3687 | 597.6882    | 921.2127 | 182.9744   | 617.5014 |
| PCCS2_03... | 308.2510 | -22.0319 | 237.5028 | -82.9756 | 1025.372 | 90.96071   | 972.2041 | 350.4664    | 942.9523 | 147.4463   | 978.2449 |
| PCCS2_03... | 308.3989 | -23.1090 | 244.9730 | -83.6252 | 370.0822 | 87.56758   | 470.0057 | 340.1170    | 332.4337 | 157.9135   | 367.94   |
| PCCS2_03... | 311.1530 | 10.4770  | 320.1821 | 70.3597  | 593.0530 | 98.22151   | 326.0610 | 322.4497    | 303.0211 | 160.8268   | 300.36   |

Search

23 sel / 1560 src 26fps / 1401Mb

Page size: 100

Displaying 1-26 of 26



# The Planck Legacy Archive: Advanced Search



EUROPEAN SPACE AGENCY SCIENCE & TECHNOLOGY

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## Planck Legacy Archive



The screenshot displays the Planck Legacy Archive web interface. At the top, the 'RESULTS' section shows a list of 26 frequency maps. A red box highlights the Wi-Fi icon in the toolbar. The main visualization area shows a sky map in Mollweide projection, with a grid of latitude and longitude lines. The map is labeled 'I-STOKES' and 'ALADIN'. The right sidebar contains a legend with layers for 'Polarisation', 'U-STOKES', 'Q-STOKES', and 'I-STOKES'. The bottom status bar indicates 'Displaying 1-26 of 26' and 'Page size: 100'.

# The Planck Legacy Archive: Synchronous tools

## Planck Legacy Archive



RESULTS
Close All << < Maps #1 > >>

| FREQUENCY MAPS (26) X               |  |  | Map name   | Size   | Frequency |
|-------------------------------------|--|--|--|--------|-----------|
| <input checked="" type="checkbox"/> |  |  | LFI_SkyMap_030_1024_R3.00_full.fits                              | 480 MB | 30        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_030-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 30        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 30        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB | 30        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB | 44        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_044-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 44        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_044-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 44        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_044-field-IQU_1024_R3.00_full.fits                    | 144 MB | 44        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_070_1024_R3.00_full.fits                              | 480 MB | 70        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 70        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 70        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_070-BPassCorrected-tpl_1024_R3.00_full.fits           | 480 MB | 70        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_070-BPassCorrected-tpl-field-IQU_1024_R3.00_full.fits | 144 MB | 70        |
| <input type="checkbox"/>            |  |  | LFI_SkyMap_070-field-IQU_1024_R3.00_full.fits                    | 144 MB | 70        |

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X

summary headers Explanatory Supplement

|                |                                     |
|----------------|-------------------------------------|
| Map name       | LFI_SkyMap_030_1024_R3.00_full.fits |
| Size           | 480 MB                              |
| Frequency      | 30                                  |
| Period         | Full                                |
| BPassCorrected | false                               |
| Zodicorrected  | false                               |
| Ringhalf       | 0                                   |
| Instrument     | LFI                                 |
| NSide          | 1024                                |
| Release        | PR3                                 |
| Light map      | false                               |
| rows           | 12582912                            |

# The Planck Legacy Archive: Synchronous tools

## Planck Legacy Archive



RESULTS

Close All << < Maps #1 > >>

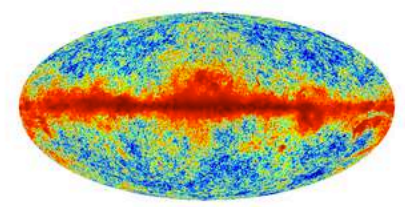
**FREQUENCY MAPS (26) X**

PR1 PR2 PR3 PR4 **Only legacy** 1 selected items Explanatory

| <input type="checkbox"/>            |  |  |  |  | Map name   | Size   | Frequency |
|-------------------------------------|--|--|--|--|--|--------|-----------|
| <input checked="" type="checkbox"/> |  |  |  |  | LFI_SkyMap_030_1024_R3.00_full.fits                              | 480 MB | 30        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_030-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 30        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 30        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB | 30        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB | 44        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_044-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 44        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_044-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 44        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_044-field-IQU_1024_R3.00_full.fits                    | 144 MB | 44        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_070_1024_R3.00_full.fits                              | 480 MB | 70        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 70        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 70        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_070-BPassCorrected-tp1_1024_R3.00_full.fits           | 480 MB | 70        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_070-BPassCorrected-tp1-field-IQU_1024_R3.00_full.fits | 144 MB | 70        |
| <input type="checkbox"/>            |  |  |  |  | LFI_SkyMap_070-field-IQU_1024_R3.00_full.fits                    | 144 MB | 70        |

1 of 1 Page size: 100 Displaying 1-26 of 26

LFI\_SkyMap\_030\_1024\_R3.00\_full.fits X



summary
headers
Explanatory Supplement

|          |  |
|----------|--|
| LASTPIX  | 12582911 / Last pixel # (0 based)                        |
| INDXSCHM | 'IMPLICIT' / Indexing: IMPLICIT or EXPLICIT              |
| EXTVER   | 2  |
| PROCV    | 'DX12'   |
| BAD_DATA | -1.6375E+30  |
| FREQ     | 30   |
| UNITFREQ | 'GHz' / Frequency Units                                  |
| BNDCTR   | '30' / Formal Band Center                                |
| RESTFREQ | 28.456 / Effective Central Frequency                     |
| BNDWID   | 9.899 / Effective Bandwidth                              |
| COORDSYS | 'GALACTIC'   |
| POLCONV  | 'COSMO' / Coord. convention for polarization (COSMO/IAU) |

# The Planck Legacy Archive: Synchronous tools



EUROPEAN SPACE AGENCY

Details for LFI\_SkyMap\_030\_1024\_R3.00\_full.fits

SIGN IN

Planck Legacy

106.5878088 +2.9407478



Navigation and control panel on the left side of the interface, including icons for home, search, and other functions. Below these icons is a 'FREQUENCY' section with a list of checkboxes and corresponding icons, likely for selecting different frequency bands. A 'RESULTS' section is partially visible at the top.

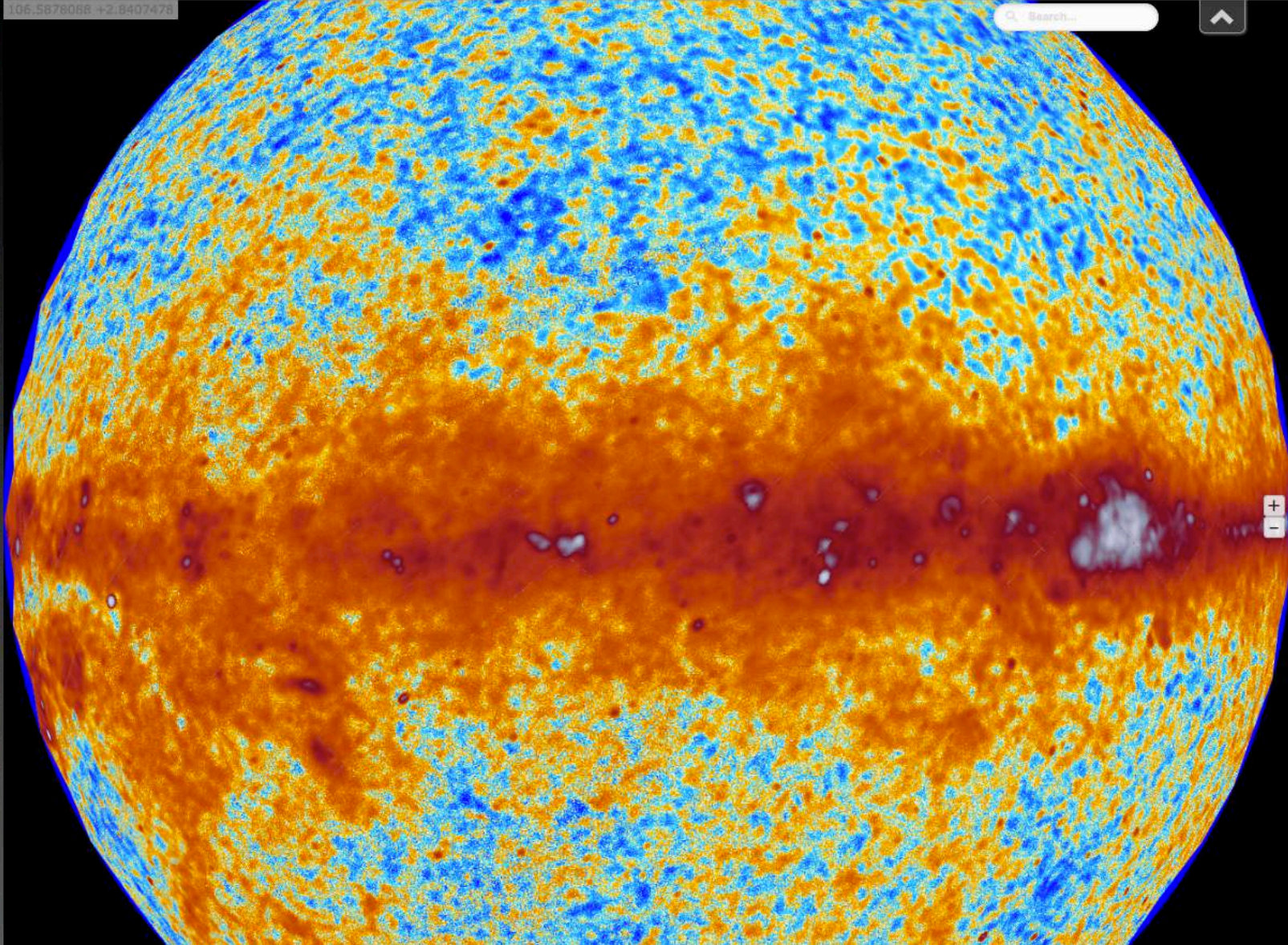


Table listing release information for the Planck Legacy Archive. The table has two columns: 'Release' and 'Supplement'. The 'Release' column contains 'PR3' for all entries. The 'Supplement' column contains 'Legacy Supplement' for the first entry and is empty for the others. The table displays 26 rows in total, with the first row highlighted.

| Release | Supplement        |
|---------|-------------------|
| PR3     | Legacy Supplement |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
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| PR3     |                   |
| PR3     |                   |
| PR3     |                   |
| PR3     |                   |

Displaying 1-26 of 26

# The Planck Legacy Archive: Synch tools



## Planck Legacy Archive



RESULTS

Close All << < Maps #1 > >>

FREQUENCY MAPS (26) X

PR1 PR2 PR3 PR4 Only legacy 1 selected items Explanatory

|                                     | Map name   | Size   | Frequency | Period | BPassCorre |
|-------------------------------------|--|--------|-----------|--------|------------|
| <input type="checkbox"/>            | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 30        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB | 30        | Full   | no         |
| <input checked="" type="checkbox"/> | LFI_SkyMap_030_1024_R3.00_full.fits                              | 480 MB | 30        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_030-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 30        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_044-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 44        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_044-field-IQU_1024_R3.00_full.fits                    | 144 MB | 44        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB | 44        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_044-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 44        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070_1024_R3.00_full.fits                              | 480 MB | 70        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_070-field-IQU_1024_R3.00_full.fits                    | 144 MB | 70        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-tpl-field-IQU_1024_R3.00_full.fits | 144 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-tpl_1024_R3.00_full.fits           | 480 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_100_2048_R3.01_full.fits                              | 1.9 GB | 100       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_100-field-IQU_2048_R3.00_full.fits                    | 576 MB | 100       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_143_2048_R3.01_full.fits                              | 1.9 GB | 143       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_143-field-  | 576 MB | 143       | Full   | yes        |

Map conversions

Gnomonic re-projection of a cutout area of LFI\_SkyMap\_030\_1024\_R3.00\_full.fits. Map operations are performed on the cutout.

Map Cutout Operations Full Map(s) Operations

MAP EXTENSIONS AND COLUMNS

Extension: FREQ-MAP Columns: Multiple

MAP CUTOUT SETTINGS

MAP OPERATIONS

Columns: I\_STOKES, Q\_STOKES, U\_STOKES

- Component Subtraction
- Unit Conversion
- Bandpass Transformation
- Colour Correction
- Masking
- Error Estimation

Applicable only for Unit Conversion, Bandpass Transformation, and Color Correction.

No operations have been selected.

Submit Clear

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# The Planck Legacy Archive: Synch tools



## Planck Legacy Archive



RESULTS Close All << < Maps #1 > >>

FREQUENCY MAPS (26) X

PR1 PR2 PR3 PR4 Only legacy 1 selected items Explanatory

|                                     | Map name   | Size   | Frequency | Period | BPassCorre |
|-------------------------------------|--|--------|-----------|--------|------------|
| <input type="checkbox"/>            | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 30        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB | 30        | Full   | no         |
| <input checked="" type="checkbox"/> | LFI_SkyMap_030_1024_R3.00_full.fits                              | 480 MB | 30        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_030-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 30        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_044-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 44        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_044-field-IQU_1024_R3.00_full.fits                    | 144 MB | 44        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB | 44        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_044-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 44        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070_1024_R3.00_full.fits                              | 480 MB | 70        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_070-field-IQU_1024_R3.00_full.fits                    | 144 MB | 70        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-tpl-field-IQU_1024_R3.00_full.fits | 144 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-tpl_1024_R3.00_full.fits           | 480 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_100_2048_R3.01_full.fits                              | 1.9 GB | 100       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_100-field-IQU_2048_R3.00_full.fits                    | 576 MB | 100       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_143_2048_R3.01_full.fits                              | 1.9 GB | 143       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_143-field-  | 576 MB | 143       | Full   | yes        |

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Map conversions

Gnomonic re-projection of a cutout area of LFI\_SkyMap\_030\_1024\_R3.00\_full.fits. Map operations are performed on the cutout.

Map Cutout Operations Full Map(s) Operations

MAP EXTENSIONS AND COLUMNS  
Extension: FREQ-MAP Columns: Multiple

MAP CUTOUT SETTINGS

MAP OPERATIONS  
Columns: I\_STOKES, Q\_STOKES, U\_STOKES

Component Subtraction

CMB  
Subtract the CMB component as defined below:  
Release: PR3  
Algorithm: Commander

Synchrotron  
 Free-free  
 Spinning Dust  
 Thermal Dust  
 SZ  
 Line Emission  
 CIB  
 Low-Frequency

Unit Conversion

Bandpass Transformation

# The Planck Legacy Archive: Asynch tools



## Planck Legacy Archive



RESULTS

Close All << < Maps #1 > >>

FREQUENCY MAPS (26) X

✂️ 🔍 📄 📧 📶

PR1 PR2 PR3 PR4

Only legacy 2 selected items Explanatory

|                                     | Map name   | Size   | Frequency | Period | BPassCorre |
|-------------------------------------|--|--------|-----------|--------|------------|
| <input type="checkbox"/>            | LFI_SkyMap_030-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 30        | Full   | yes        |
| <input checked="" type="checkbox"/> | LFI_SkyMap_030-field-IQU_1024_R3.00_full.fits                    | 144 MB | 30        | Full   | no         |
| <input checked="" type="checkbox"/> | LFI_SkyMap_030_1024_R3.00_full.fits                              | 480 MB | 30        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_030-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 30        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_044-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 44        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_044-field-IQU_1024_R3.00_full.fits                    | 144 MB | 44        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_044_1024_R3.00_full.fits                              | 480 MB | 44        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_044-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 44        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070_1024_R3.00_full.fits                              | 480 MB | 70        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_070-field-IQU_1024_R3.00_full.fits                    | 144 MB | 70        | Full   | no         |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-tpl-field-IQU_1024_R3.00_full.fits | 144 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-tpl_1024_R3.00_full.fits           | 480 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected-field-IQU_1024_R3.00_full.fits     | 144 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | LFI_SkyMap_070-BPassCorrected_1024_R3.00_full.fits               | 480 MB | 70        | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_100_2048_R3.01_full.fits                              | 1.9 GB | 100       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_100-field-IQU_2048_R3.00_full.fits                    | 576 MB | 100       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_143_2048_R3.01_full.fits                              | 1.9 GB | 143       | Full   | yes        |
| <input type="checkbox"/>            | HFI_SkyMap_143-field-  | 576 MB | 143       | Full   | yes        |

Map conversions

Perform operations on the selected full Sky map(s). For operations other than masking, only the IQU columns will be included in the output. Map cutout is optional.

Map Cutout Operations Full Map(s) Operations

MASK CUTOUT SETTINGS (OPTIONAL)

MAP OPERATIONS

- Component Subtraction
- Unit Conversion
- Bandpass Transformation
- Colour Correction
- Masking

Selected Maps:

- LFI\_SkyMap\_030-field-IQU\_1024\_R3.00\_full.fits
- LFI\_SkyMap\_030\_1024\_R3.00\_full.fits

No operations have been selected.

Job name Full Map Operation Submit Clear

of 1 Page size: 100

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# The Planck Legacy Archive



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## Planck Legacy Archive

**WELCOME TO THE PLANCK LEGACY ARCHIVE**

The Planck Legacy Archive provides online access to all official data products generated by the Planck mission.

Quick product search by file name

**LATEST NEWS**

[Planck 2018 Likelihood release](#)  
The Planck 2018 results Likelihood Code, baseline likelihoods and extensions have been released today in the PLA. The accompanying publication has been submitted to A&A and is available in <https://arxiv.org/abs/1907.12875>. In addition, updated cosmological parameter chains have been released too.

[2019-07-31 Planck Science Office](#)

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# The Planck Legacy Archive: Catalogues



## Planck Legacy Archive



Available Data Sets: PR1-2013 | PR2-2015 | PR3-2018 | Legacy (Selection of PR1-2013, PR2-2015 and PR3-2018) | PR4-2020

Query or download any of the catalogues in the Planck Legacy Archive. There are different types of catalogues available:

- **ERCSC** Early Release Compact Source Catalogue
- **PCCS** Planck Catalogue of Compact Sources
- **SZ** Sunyaev-Zel'dovich Galaxy Cluster Catalogue
- **PGCC** Galactic Cold Clump Catalogue
- **PHZ** List of high-redshift source candidates
- **PCNT** Planck multifrequency non-thermal catalogue
- **BEEP** Bayesian reprocessing of PCCS2+PCCS2E 857 GHz
- By clicking the '+' icon the catalogue associated products will be displayed in a tree format

### CATALOGUES

Only legacy products Release: PRX - 2018 [Explanatory Supplement](#)

**PCCS** BEEP PCNT PGCC PHZ PSZ All catalogues

### RESULTS

PR1 PR2 PR3 PR4 0 selected items

|                                     | File name                        | Description  | Frequency | Source size |
|-------------------------------------|----------------------------------|--|-----------|-------------|
| <input type="checkbox"/>            | COM_PCCS_030_R2.04.fits          | 2015 30 GHz second Planck catalogue of compact sources (PCCS2)         | 30        | 331.9 KB    |
| <input type="checkbox"/>            | COM_PCCS_044_R2.04.fits          | 2015 44 GHz second Planck catalogue of compact sources (PCCS2)         | 44        | 205.3 KB    |
| <input type="checkbox"/>            | COM_PCCS_070_R2.04.fits          | 2015 70 GHz second Planck catalogue of compact sources (PCCS2)         | 70        | 278.4 KB    |
| <input checked="" type="checkbox"/> | COM_PCCS_100-excluded_R2.01.fits | 2015 100 GHz second Planck compact source exclusion catalogue (PCCS2E) | 100       | 587.8 KB    |
| <input checked="" type="checkbox"/> | COM_PCCS_100_R2.01.fits          | 2015 100 GHz second Planck catalogue of compact sources (PCCS2)        | 100       | 419.1 KB    |
| <input checked="" type="checkbox"/> | COM_PCCS_143-excluded_R2.01.fits | 2015 143 GHz second Planck compact source exclusion catalogue (PCCS2E) | 143       | 970.3 KB    |
| <input checked="" type="checkbox"/> | COM_PCCS_143_R2.01.fits          | 2015 143 GHz second Planck catalogue of compact sources (PCCS2)        | 143       | 514.7 KB    |
| <input checked="" type="checkbox"/> | COM_PCCS_217-excluded_R2.01.fits | 2015 217 GHz second Planck compact source exclusion catalogue (PCCS2E) | 217       | 4 MB        |

# The Planck Legacy Archive: Catalogues



## Planck Legacy Archive



Available Data Sets: PR1-2013 | PR2-2015 | PR3-2018 | Legacy (Selection of PR1-2013, PR2-2015 and PR3-2018) | PR4-2020

Query or download any of the catalogues in the Planck Legacy Archive. There are different types of catalogues available:

- **ERCSC** Early Release Compact Source Catalogue
- **PCCS** Planck Catalogue of Compact Sources
- **SZ** Sunyaev-Zel'dovich Galaxy Cluster Catalogue
- **PGCC** Galactic Cold Clump Catalogue
- **PHZ** List of high-redshift source candidates
- **PCNT** Planck multifrequency non-thermal catalogue
- **BEEP** Bayesian reprocessing of PCCS2+PCCS2E 857 GHz
- By clicking the '+' icon the catalogue associated products will be displayed in a tree format

### CATALOGUES

Only legacy products Release: PRX - 2018 [Explanatory Supplement](#)

**PCCS** **BEEP** **PCNT** **PGCC** **PHZ** **PSZ** **All catalogues**

### RESULTS

PR1 PR2 PR3 PR4 0 selected items

|                                     |  |  |  |  | File name                        | Description  | Frequency | Source size |
|-------------------------------------|--|--|--|--|----------------------------------|--|-----------|-------------|
| <input type="checkbox"/>            |  |  |  |  | COM_PCCS_030_R2.04.fits          | 2015 30 GHz second Planck catalogue of compact sources (PCCS2)         | 30        | 331.9 KB    |
| <input type="checkbox"/>            |  |  |  |  | COM_PCCS_044_R2.04.fits          | 2015 44 GHz second Planck catalogue of compact sources (PCCS2)         | 44        | 205.3 KB    |
| <input type="checkbox"/>            |  |  |  |  | COM_PCCS_070_R2.04.fits          | 2015 70 GHz second Planck catalogue of compact sources (PCCS2)         | 70        | 278.4 KB    |
| <input checked="" type="checkbox"/> |  |  |  |  | COM_PCCS_100-excluded_R2.01.fits | 2015 100 GHz second Planck compact source exclusion catalogue (PCCS2E) | 100       | 587.8 KB    |
| <input checked="" type="checkbox"/> |  |  |  |  | COM_PCCS_100_R2.01.fits          | 2015 100 GHz second Planck catalogue of compact sources (PCCS2)        | 100       | 419.1 KB    |
| <input checked="" type="checkbox"/> |  |  |  |  | COM_PCCS_143-excluded_R2.01.fits | 2015 143 GHz second Planck compact source exclusion catalogue (PCCS2E) | 143       | 970.3 KB    |
| <input checked="" type="checkbox"/> |  |  |  |  | COM_PCCS_143_R2.01.fits          | 2015 143 GHz second Planck catalogue of compact sources (PCCS2)        | 143       | 514.7 KB    |
| <input checked="" type="checkbox"/> |  |  |  |  | COM_PCCS_217-excluded_R2.01.fits | 2015 217 GHz second Planck compact source exclusion catalogue (PCCS2E) | 217       | 4 MB        |

# The Planck Legacy Archive: Catalogues



## Planck Legacy Archive



Available Data Sets: PR1-2013 PR2-2015 PR3-2018 Legacy (Selection of PR1-2013, PR2-2015 and PR3-2018) PR4-2020

Query or download: ERCS Ea, PCCS Plan, SZ Sunyaev, PGCC Galaxies, PHZ List of Galaxies, PCNT Plan, BEEP Bayesian, By clicking

**CATALOGUES**

Only legacy products

22 / 3641 M

**Table List**

2: COM\_PCCS\_030\_R2.04.fits

**Current Table Properties**

Label: COM\_PCCS\_030\_R2.04.fits  
 Location: PLA:COM\_PCCS\_030\_R2.04.fits  
 Name: COM\_PCCS\_030\_R2.04.fits  
 Rows: 1.560  
 Columns: 35  
 Sort Order:   
 Row Subset: All   
 Activation Action: (no action)  Broadcast Row

SAMP Messages:

**Table Browser for 2: COM\_PCCS\_030\_R2.04.fits**

|    | NAME                    | GLON  | GLAT    | RA        | DEC       | DETFLUX |          |
|----|-------------------------|-------|---------|-----------|-----------|---------|----------|
| 1  | PCCS2 030 G000.07-00.06 | 0,067 | -0,059  | 266,5024  | -28,90969 | 2,226   |          |
| 2  | PCCS2 030 G000.07+81.65 | 0,068 | 81,651  | 200,43978 | 22,39725  | 408,8   |          |
| 3  | PCCS2 030 G000.16-12.70 | 0,163 | -12,701 | 279,71334 | -34,76243 | 430,3   |          |
| 4  | PCCS2 030 G000.52-58.35 | 0,518 | -58,345 | 337,71353 | -39,68064 | 579,7   |          |
| 5  | PCCS2 030 G000.67-42.84 | 0,674 | -42,842 | 317,39516 | -41,17454 | 715,9   |          |
| 6  | PCCS2 030 G001.40+45.99 | 1,4   | 45,986  | 229,17612 | 0,25933   | 1575,1  | 205.3 KB |
| 7  | PCCS2 030 G001.58-28.96 | 1,576 | -28,963 | 299,50451 | -38,75532 | 1854,1  | 278.4 KB |
| 8  | PCCS2 030 G002.28+65.92 | 2,277 | 65,92   | 214,00663 | 13,3652   | 645,8   |          |
| 9  | PCCS2 030 G002.38+05.86 | 2,382 | 5,856   | 262,29718 | -23,79634 | 1824,7  | 587.8 KB |
| 10 | PCCS2 030 G002.46+61.45 | 2,464 | 61,454  | 217,63752 | 10,65554  | 473,3   |          |
| 11 | PCCS2 030 G003.21-00.07 | 3,212 | -0,07   | 268,33644 | -26,21737 | 16537,  | 419.1 KB |
| 12 | PCCS2 030 G003.45+80.50 | 3,451 | 80,5    | 201,78517 | 22,17523  | 975,6   |          |
| 13 | PCCS2 030 G004.14+35.54 | 4,138 | 35,538  | 238,55476 | -4,80624  | 482,8   | 970.3 KB |
| 14 | PCCS2 030 G004.46-62.04 | 4,456 | -62,045 | 341,80165 | -36,99157 | 795,6   | 514.7 KB |
| 15 | PCCS2 030 G004.52+06.81 | 4,518 | 6,808   | 262,68129 | -21,49688 | 1992,7  | 4 MB     |

**RESULTS**

| File name                        | Source size |
|----------------------------------|-------------|
| COM_PCCS_030_R2.04.fits          | 331.9 KB    |
| COM_PCCS_044_R2.04.fits          | 205.3 KB    |
| COM_PCCS_070_R2.04.fits          | 278.4 KB    |
| COM_PCCS_100-excluded_R2.01.fits | 587.8 KB    |
| COM_PCCS_100_R2.01.fits          | 419.1 KB    |
| COM_PCCS_143-excluded_R2.01.fits | 970.3 KB    |
| COM_PCCS_143_R2.01.fits          | 514.7 KB    |
| COM_PCCS_217-excluded_R2.01.fits | 4 MB        |

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- [TIMELINES AND RINGS](#)
- [SOFTWARE, BEAMS AND INSTRUMENT MODEL](#)
- [OPERATIONAL DATA](#)

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# The Planck Legacy Archive: Cosmology



## Planck Legacy Archive



Available Data Sets: PR1-2013 | PR2-2015 | PR3-2018 | **Legacy** (Selection of PR1-2013, PR2-2015 and PR3-2018) | PR4-2020  
Browse cosmology products of the Planck Legacy Archive.

### COSMOLOGY PRODUCTS

Only legacy products Release: PRX - 2018 [Explanatory Supplement](#)

Cosmological parametersCMB angular power spectraLikelihoodLensing productsNoise covariance matrices

[Summary table](#)

### RESULTS

PR1 PR2 PR3 PR4 0 selected items

|                          |  |  | Description  | File name   | Size     |
|--------------------------|--|--|--|---|----------|
| <input type="checkbox"/> |  |  | Full chains and getdist outputs for parameter results. The entire grid of results, including likelihood variations, various external data combinations and CMB lensing only.results is included. | COM_CosmoParams_fullGrid_R3.01.zip                    | 11 GB    |
| <input type="checkbox"/> |  |  | CMB lensing + priors based constraints for LCDM and LCDM+mnu.  | COM_CosmoParams_lensonly_R3.01.zip                    | 1 GB     |
| <input type="checkbox"/> |  |  | Baseline LCDM chains with all plikHM combinations and no z_re prior cut.   | COM_CosmoParams_base-plikHM_R3.01.zip                 | 470.8 MB |
| <input type="checkbox"/> |  |  | Baseline LCDM chains with all plikHM combinations with z_re>6.5 prior cut.   | COM_CosmoParams_base-plikHM-zre6p5_R3.01.zip          | 266.6 MB |
| <input type="checkbox"/> |  |  | Set of PDF parameter tables, including multipole cuts and a .tex file of sigma_8 Omm^x data constraints from the baseline likelihood combination.  | COM_CosmoParams_parameter-tables_R3.01.zip            | 125.3 MB |
| <input type="checkbox"/> |  |  | Baseline LCDM chains with baseline likelihoods (based on plikHM-TTTEEE_low_lowE).  | COM_CosmoParams_base-plikHM-TTTEEE-low-lowE_R3.00.zip | 62.3 MB  |

1 of 1 Page size: 100 Displaying 1-6 of 6

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# The Planck Legacy Archive: Timelines & Rings

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## Planck Legacy Archive



Available Data Sets:  PR1-2013 |  PR2-2015 |  PR3-2018 | **Legacy** (Selection of  PR1-2013,  PR2-2015 and  PR3-2018) |  PR4-2020

- Use the search panels below to retrieve timelines of calibrated data acquired by Planck. The timelines are arranged in files containing groups of detectors by observational day.
- Use the filters below to select timelines by time window and/or by region of the sky.
- The search will return all the files which contain the data requested. It is possible as well to retrieve files containing only the data requested.

### SEARCH AND DOWNLOAD TIME-ORDERED DATA

Timelines Rings

[Explanatory Supplement](#) 

Only legacy products

#### Timelines type

- Science data
- Pointing
- TAI
- Baseline
- House keeping
- Any

Release

Instrument

Frequency

SCI Type

HK category

#### SELECT SKY REGION

Name  Galactic

Name  for  Radius

#### TIME FILTERS

 Submit

 Clear

### MAKE MAPS FROM TIME-ORDERED DATA

# The Planck Legacy Archive: Timelines & Rings



## Planck Legacy Archive



Available Data Sets: PR1-2013 | PR2-2015 | PR3-2018 | **Legacy** (Selection of PR1-2013, PR2-2015 and PR3-2018) | PR4-2020

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### SEARCH AND DOWNLOAD TIME-ORDERED DATA

**Timelines** Rings

[Explanatory Supplement](#)

Only legacy products

#### Timelines type

- Science data
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Release

Instrument

Frequency

SCI Type

HK category

#### SELECT SKY REGION

Name  Galactic

Name  for  Radius

#### TIME FILTERS

Submit

Clear








### MAKE MAPS FROM TIME-ORDERED DATA



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Timelines Rings

[Explanatory Supplement](#) 

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SCI Type

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#### SELECT SKY REGION

Name  Galactic

Name  for  Radius



#### TIME FILTERS

 Submit

 Clear

### MAKE MAPS FROM TIME-ORDERED DATA

# The Planck Legacy Archive: Timelines & Rings

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

























## Planck Legacy Archive



**RESULTS** Close All << < **Timelines #2** > >>

**SCIENCE TIMELINES (14382) X** **POINTING TIMELINES (9843) X**

      PR1 PR2 PR3 PR4  Only legacy products 0 selected items [Explanatory Supplement](#)

| <input type="checkbox"/> | <input type="checkbox"/>  | <input type="checkbox"/>  | <input type="checkbox"/>  | File name                         | Size     | Release | Type | SCI timeline type | Version number | Start time UTC           | End time UTC             |
|--------------------------|---|---|---|-----------------------------------|----------|---------|------|-------------------|----------------|--------------------------|--------------------------|
| <input type="checkbox"/> |    |    |    | HFI_TOI_100-RAW_R2.00_OD0091.fits | 482.8 MB | PR2     | SCI  | RAW               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |    |    |    | HFI_TOI_143-RAW_R2.00_OD0091.fits | 624.1 MB | PR2     | SCI  | RAW               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |    |    |    | HFI_TOI_217-RAW_R2.00_OD0091.fits | 671.2 MB | PR2     | SCI  | RAW               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |    |    |    | HFI_TOI_353-RAW_R2.00_OD0091.fits | 671.2 MB | PR2     | SCI  | RAW               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | HFI_TOI_545-RAW_R2.00_OD0091.fits | 247.3 MB | PR2     | SCI  | RAW               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | HFI_TOI_857-RAW_R2.00_OD0091.fits | 294.4 MB | PR2     | SCI  | RAW               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | LFI_TOI_030-CON_R3.00_OD0091.fits | 95.2 MB  | PR3     | SCI  | CON               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | LFI_TOI_030-SCI_R3.00_OD0091.fits | 95.2 MB  | PR3     | SCI  | SCI               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | LFI_TOI_044-CON_R3.00_OD0091.fits | 190.8 MB | PR3     | SCI  | CON               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | LFI_TOI_044-SCI_R3.00_OD0091.fits | 190.8 MB | PR3     | SCI  | SCI               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |
| <input type="checkbox"/> |  |  |  | LFI_TOI_070-CON_R3.00_OD0091.fits | 599.5 MB | PR3     | SCI  | CON               | 0              | 2009-08-12<br>11:12:58.0 | 2009-08-13<br>11:15:01.0 |

1 of 144 Page size: 100

Displaying 1-100 of 14382

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# The Planck Legacy Archive: Effective Beams



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MLOPEZCA

## Planck Legacy Archive



Browse instrument models, software, effective beams and scanning beams in the Planck Legacy Archive.

- The effective beams encode the angular response of Planck frequency maps, and vary with frequency and line of sight.
- The scanning beams describe the instrument instantaneous beam profiles.
- Use the panel below to retrieve effective beams for individual lines of sight, or over a grid of points within a specified region.
- Within optical beams we include input models (geometry) adapted for the GRASP software, and the optical performance obtained with those models.

**Note:** Effective beams apply only to frequency maps and not to components maps (CMP, foregrounds).

### INSTRUMENT MODELS AND SOFTWARE

**Instrument models** | Software | **Beams**

Only legacy products Release: PRX - 2018

[Explanatory Supplement](#)

[Effective beams](#) | [Scanning beams](#) | [Model optical beams](#)

Query  Single beam  Multiple beam  Average beams

Frequency: 30 GHz

**SELECT SKY REGION**

| Name | Equatorial | Galactic |
|------|------------|----------|
|      |            |          |

Longitude (deg)  Latitude (deg)

[Submit](#) | [Clear](#) | [Send beam](#)

# The Planck Legacy Archive: Effective Beams



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### INSTRUMENT MODELS AND SOFTWARE

Instrument models Software **Beams**

Only legacy products Release PRX - 2018

[Explanatory Supplement](#)

Effective beams

Scanning beams

Model optical beams

Query  Single beam  Multiple beam  Average beams

Frequency 30 GHz

#### SELECT SKY REGION

Name Equatorial Galactic

Longitude (deg) 0 Latitude (deg) 0

Submit Clear Send beam

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- [PLANCK SKY MODEL](#)

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# The Planck Legacy Archive



- Web interface for Planck Sky Model simulation software

**STEP 1: SKY MODEL**

Generate New Sky  
 Use existing Sky Model

**GLOBAL PARAMETERS**

Fields:  HEALPix Nside:

▶ Advanced options

**COSMOLOGICAL PARAMETERS**

Select from a predefined set of cosmological parameters:

**Independent Parameters**

$H_{100}$    $n_s$    $\tau_{\text{reion}}$    $A$    $\omega_m$    $\omega_b$

▶ Extension Parameters

**MODEL SELECTION**

CMB  SZ emission  Galactic emission  PS emission  FIRB emission

▶ Advanced options



# The Planck Legacy Archive



- Web interface for Planck Sky Model simulation software

**MODEL SELECTION**

CMB  SZ emission  Galactic emission  PS emission  FIRB emission

▶ Advanced options

**CMB Monopole**

Mean primordial  $\gamma$    
Mean primordial  $\mu$    
 $T_{\text{CMB}}$

**CMB Dipole**

Dipole glon   
Dipole glat (degrees)   
Dipole ampl (mK\_CMB)

**CMB Anisotropies**

Data-based  
 Model-based  
CMB Model   
CMB Lensing

**STEP 2: SKY OBSERVATION (OPTIONAL)**

Perform Sky Observation

**OBSERVATION PARAMETERS**

**INSTRUMENTS**

Instrument   
30GHz Channels  K\_CMB  
44GHz Channels  K\_CMB  
70GHz Channels  K\_CMB

**CO-ADDITION RULES**

Define the co-addition rules:  
 All (everything, including noise)  
 All Sky (all sky components, but not noise)  
 Custom selection

**OUTPUT**

Choose:  
 All output files  
 Observations only  
 Configuration file only





# The Planck Legacy Archive



- Web interface for Planck Sky Model simulation software

**STEP 2: SKY OBSERVATION (OPTIONAL)**

Perform Sky Observation

**OBSERVATION PARAMETERS**

**INSTRUMENTS**

Instrument:

Name:

Bandshape:

BeamType:

Stokes:

Observation Units:

| Selection                | Band Name (GHz)      | Central Frequencies (GHz) | Beam (arcminutes)    |
|--------------------------|----------------------|---------------------------|----------------------|
| <input type="checkbox"/> | <input type="text"/> | <input type="text"/>      | <input type="text"/> |
| <input type="checkbox"/> | <input type="text"/> | <input type="text"/>      | <input type="text"/> |
| <input type="checkbox"/> | <input type="text"/> | <input type="text"/>      | <input type="text"/> |
| <input type="checkbox"/> | <input type="text"/> | <input type="text"/>      | <input type="text"/> |
| <input type="checkbox"/> | <input type="text"/> | <input type="text"/>      | <input type="text"/> |

**CO-ADDITION RULES**

Define the co-addition rules:

All (everything, including noise)

All Sky (all sky components, but not noise)

Custom selection

**OUTPUT**

Choose:

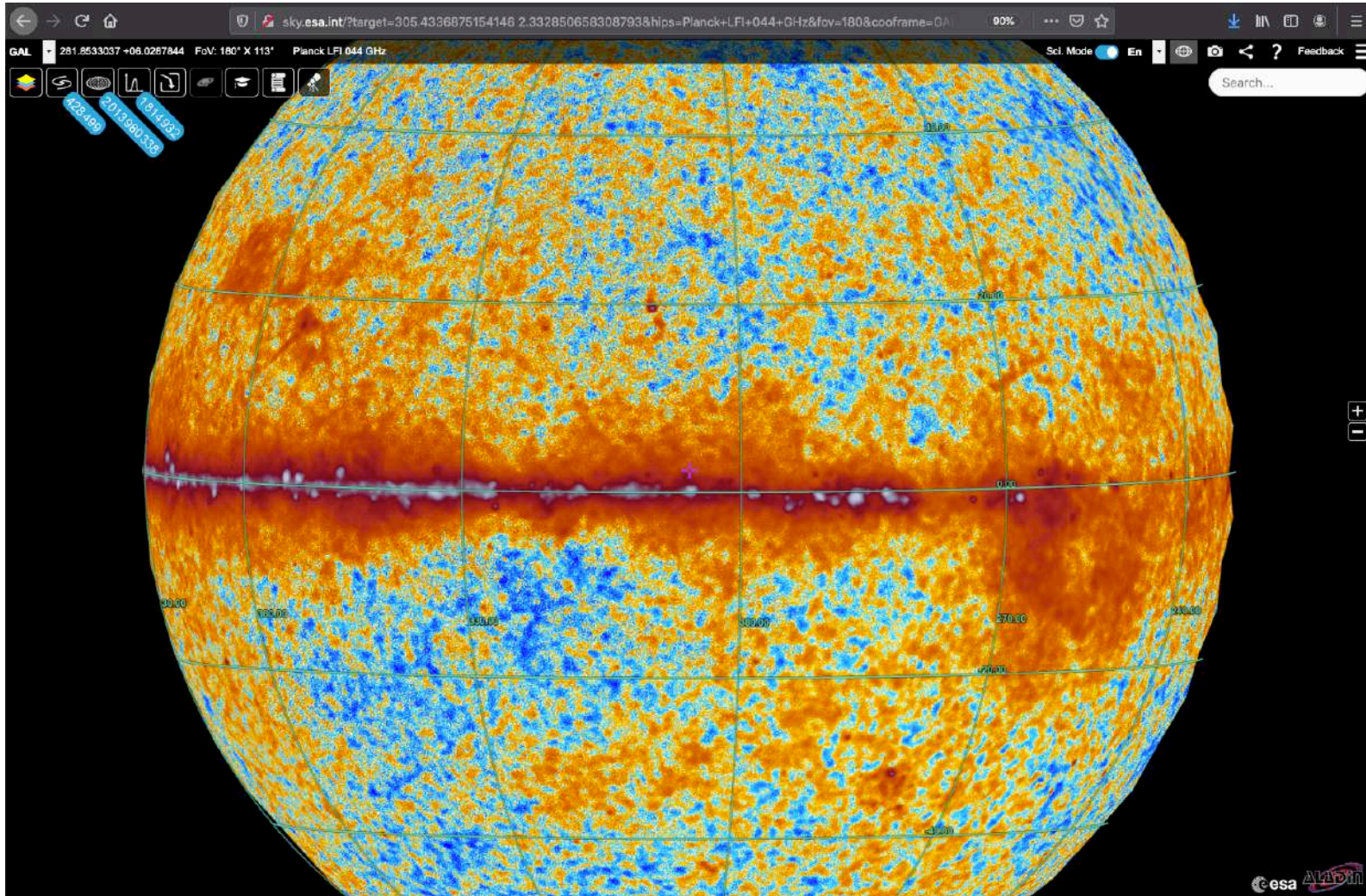
All output files

Observations only

Configuration file only



# ESASky exploration tool: sky.esa.int



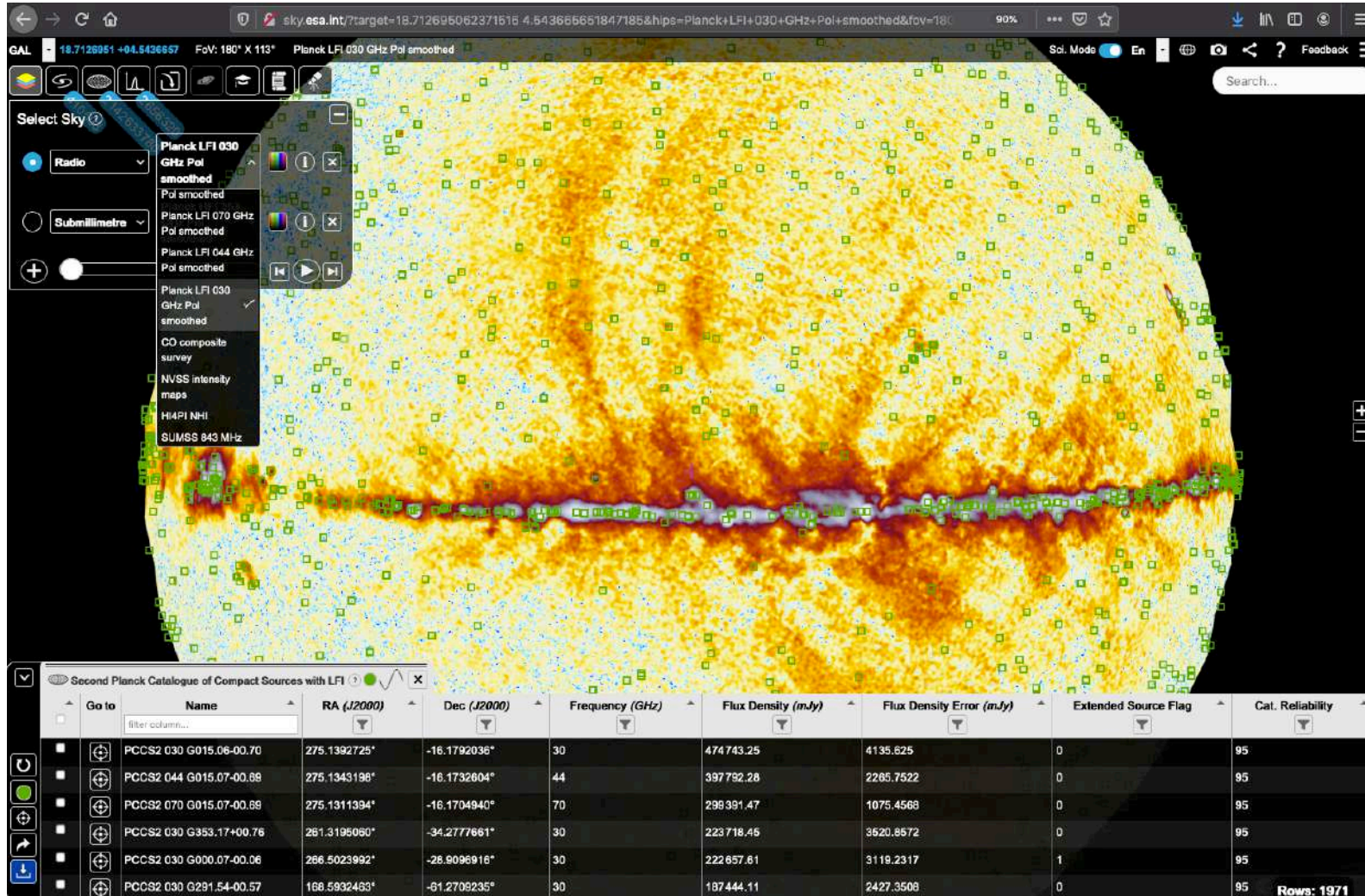
[sky.esa.int](http://sky.esa.int)



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# ESASky exploration tool: sky.esa.int



sky.esa.int



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# Future additions to the PLA



- Planck PR4 Release with the NPIPE products
  - Time ordered data
  - Frequency maps
  - Component separation maps
  - Simulations
- H2020 Projects
  - BeyondPlanck
    - A selection of the BeyondPlanck products
    - Software and simulations could be used through ESA Datalabs
  - Radioforegrounds
    - A selection of the Radioforeground products
- Other higher level data products that use Planck data and that add value to the PLA could be added. Contact Planck Project Scientist J. Tauber.



# Datalabs Scientific Research Platform



The screenshot shows the homepage of the datalabs.esa.int website. At the top, there is a blue navigation bar with the ESA logo and the text 'datalabs'. Below this is a large banner with a blue background and white text. The banner features the ESA logo and the text 'datalabs' on the left, and a quote on the right: «YOU CAN EITHER MOVE YOUR QUESTIONS OR THE DATA. [...] OFTEN IT TURNS OUT TO BE MORE EFFICIENT TO MOVE THE QUESTIONS THAN TO MOVE THE DATA.» attributed to Jim Gray, eScience: A Transformed Scientific Method. Below the banner, the main content area has a white background. It starts with a blue heading 'BRING YOUR QUESTIONS TO THE DATA'. This is followed by three paragraphs of text. The first paragraph discusses a new paradigm in science. The second paragraph discusses the challenges of large datasets. The third paragraph highlights the benefits of the datalabs platform. To the right of the text is a map of the Arctic region with a grid of data points and a color scale from blue to red.

«YOU CAN EITHER MOVE YOUR QUESTIONS OR THE DATA. [...] OFTEN IT TURNS OUT TO BE MORE EFFICIENT TO MOVE THE QUESTIONS THAN TO MOVE THE DATA.»  
Jim Gray, eScience: A Transformed Scientific Method

## BRING YOUR QUESTIONS TO THE DATA

There is a new paradigm, opening completely new opportunities for discovery – a data-intensive approach to science. In many domains, we have entered what could be called the golden age of surveys, with several large-scale projects, spanning decades, between finished, ongoing, and planned activities. ESA is responsible, or is a major partner, in several of these initiatives.

There is, however, a new profound change: data has become a major technological challenge. Increases by multiple orders of magnitude in dataset size means that transferring data to a scientist is often unfeasible.

ESA datalabs gives you a privileged position; bring your code directly to ESA's infrastructure – there is a great set of tools and programming languages are flexible – and execute it with direct access to ESA's archives.

A map of the Arctic region showing a grid of data points. The points are colored according to a scale from blue (low values) to red (high values). The map includes latitude and longitude coordinates.

**Stay tuned: [datalabs.esa.int](https://datalabs.esa.int)**



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A large, oval-shaped map of the Cosmic Microwave Background (CMB) fluctuations. The map shows a complex pattern of colors representing temperature variations across the sky, with warmer regions in yellow and orange, and cooler regions in blue and purple. The text "Thank you" is centered over the map.

Thank you