



ESA Data Discovery Portal, link to ESA datasets DOIs and to Google Dataset Search

Christophe Arviset, ESA

IVOA interoperability meeting, Bologna, Registry/DCP Session

10/05/2023

Science Data Archives at ESA



SCIENCE MISSIONS EUROPEAN SPACE AGENCY SCIENCE & TECHNOLOGY SIGN IN

esdc

ESDC Home

Home
About ESDC
Archival Research Visitor Programme
Newsletter
Science Archives
Archive Image Browser
ESASky
DOIs
User Survey Results
Videos
Scientific Tutorials
Publications
VOSpec
Euro-VO Registry
Archives User Groups
Contact Us

ESAC SCIENCE DATA CENTRE

ESDC Statistics

Monthly Users (*) 24 876	Monthly Downloaded (*) 129.1 TB	Archive Total Size 808.6 TB
-----------------------------	------------------------------------	--------------------------------

* Monthly averages in 2022

Astronomy Science Archives

cheops	esasky	exosat
gaia	herschel	hubble space telescope
iso	jwst	lisa pathfinder
planck	xmm-newton	

Heliophysics Science Archives

cluster	double star	proba-2
soho	solar orbiter	ulysses

The Planetary Science Archive

bepicolombo	cassini huygens	chandrayaan-1
exomars	giotto	mars express
rosetta	smart-1	venus express

LATEST NEWS

Tweets from @ESAesdc

Did you know you have access to more than 1000 background skies (Hierarchical Progressive Surveys = HiPS) and can load any of these in #ESASky, sky.esa.int? Thanks to the @cdsportal @VOAastro HiPS Registry! Here's how:

ESA ESDC Retweeted · Apr 18

Replying to @esasience

Mission Day 1 0 0 0 0

It's 18 April 2023 & the #SOHO era continues: over 27 years observing the Sun over 4500 comets discovered over 6000 papers written

THE EUROPEAN SPACE AGENCY

earth online

MISSIONS DATA NEWS EVENTS TOOLS SEE ALL

Find something on Earth Online

EARTH ONLINE

Earth Online presents news and information on European Space Agency activities in the field of Earth observation. The website offers information about ESA's Earth Observation data and the satellite missions and instruments that acquire this data.

MISSIONS DATA NEWS EVENTS TOOLS

FEATURED NEWS

Discover the latest news on the European Space Agency's Earth Observation activities. Learn all about new data availability and how ESA's missions are performing.

- NEW CROSS-CALIBRATION READIES PROBA-1 DATA FOR CLIMATE RESEARCH
- IMPROVED AEOLUS RAYLEIGH-CLOUDY WINDS PRODUCT NOW AVAILABLE
- AN OVERVIEW OF THE AEOLUS MISSION
- NEW COLLECTION OPEN TO USERS: FSSCAT HYPERSPECTRAL PRODUCTS

HRE Data Archive

HREDA - Human and Robotic Exploration Data Archive

The HRE Data Archive (HREDA) collects information and data of investigations funded or co-funded by ESA's Directorate for Human and Robotic Exploration (HRE) and performed on microgravity and ground-based facilities since 1972. This portal is the official entry point that allows the user to navigate through the existing investigations and the generated datasets. It is a joint effort by ESA's Directorate for Human and Robotic Exploration, the Directorate of Science, and the Science Data Centre (SDC) Madrid.

Enter text to find an investigation (e.g. Plant, Fluid)

Platforms

Analogues	Bed Rest - Immersion	Drop Facilities	Mars	Moon	Other Space Stations
Parabolic Airplanes	Retrievable Facilities	Sounding Rockets	Space Shuttle	ISS	

ESA Cookie Policy: This website uses cookies to track visits, no personal information is collected. By continuing to use the site you are agreeing to our use of cookies. Find out more

Copernicus Open Access Hub

Welcome to the Copernicus Open Access Hub

The Copernicus Open Access Hub (previously known as Sentinel Scientific Data Hub) provides complete, free and open access to Sentinel-1, Sentinel-2, Sentinel-3 and Sentinel-5P user products, starting from the In-Orbit Commissioning Review (IOCR).

Since 24 January 2023 a new Copernicus Data Space Ecosystem has been launched to provide access to all Sentinel data with new features for visualization and data processing. Please stay tuned to the news for latest information on the services available and the roadmap for the full release of all functionalities.

The Copernicus Data Hub distribution service will continue its full operations until the end of June 2023 to allow a smooth migration to the new Copernicus Data Space Ecosystem by all user communities. As from July 2023 and until September 2023, the Copernicus Data Hub distribution service will continue offering access to Sentinel data with a gradual ramp-down of the operations capacity and data offering.

Sentinel Data are also available via the Copernicus Data and Information Access Services (DIAS) through several platforms.

Please visit our User Guide for getting started with the Data Hub Interface. Discover how to use the APIs and create scripts for automatic search and download of Sentinel's data, with synchronous access to the latest data and asynchronous access to historic data via the API and GUI.

For further details or requests of support please send an e-mail to esupport@copernicus.esa.int

Reports & Stats

38,892 prod. published in the last 24h

338,550 downloads in the last 24h

Resources

- DHUS Open Source Portal
- Copernicus Copernicus Portal
- ESA Sentinel Online
- Sentinel Vision Stories
- S-T Quality Control

Open Hub API Hub S-5P Pre-Ops POD Hub

THE EUROPEAN SPACE AGENCY

ESA GNSS Science Support Centre

Fostering science collaboration in GNSS

GSSC Now (BETA)

Our activities

- IGS: ESA IGS Global Data Centre contributes to IGS organization and coordinates acquisition, preservation and distribution of IGS data for scientific purposes.
- GNSS DATALABS: GSSC Datalabs allows the application of ML on the GNSS data that constitutes a major opportunity for GNSS science applications.
- GNSS BIG DATA: Big Data from Space refers to Space and Earth observation data collected by space-borne and ground-based sensors.
- GNSS MACHINE LEARNING & IoT: The application of ML on the data produced by GNSS ground stations and millions of Internet-of-things (IoT) devices constitutes a major opportunity for...

Defining DOIs for every ESA dataset



Define a common set of metadata for all ESA Datasets, regardless of the scientific discipline

DOIs defined through CrossRef and now through DataCite

Common Metadata	
Dataset name	Dataset Description
Mission name and description	Dataset version
Instrument	Publishing date
Scientific domain	Publisher and associated information
Temporal coverage	Credit and citation Guidelines
Link to the actual data	

Build DOI landing page that provides a dataset description and a download link for the particular dataset

<https://www.cosmos.esa.int/web/esdc/doi>

A dataset provided by the European Space Agency



Name	CELIAS, Charge, Element, and Isotope Analysis System
Mission	SOHO
URL	https://www.cosmos.esa.int/web/soho/mission-long-files
DOI	https://doi.org/10.5270/esa-ley8z2h
Abstract	The CELIAS experiment on SOHO is designed to measure the mass, ionic charge and energy of the low and high speed solar wind, of suprathermal ions, and of low energy flare particles. Through analysis of the elemental and isotopic abundances, the ionic charge state, and the velocity distributions of ions originating in the solar atmosphere, the investigation focuses on the plasma processes on various temporal and spatial scales in the solar chromosphere, transition zone, and corona. CELIAS includes 3 mass- and charge-discriminating sensors based on the time-of-flight technique: CTOF for the elemental, charge and velocity distribution of the solar wind, MTOF for the elemental and isotopic composition of the solar wind, and STOF for the mass, charge and energy distribution of suprathermal ions. The instrument provides detailed in situ diagnostics of the solar wind and of accelerated particles, which complements the optical and spectroscopic investigations of the solar atmosphere on SOHO. The Proton Monitor (PM) is a subsystem of the MTOF experiment allowing the measure of the solar proton velocities from 200 to 1200 km/s. CELIAS also contains a Solar Extreme ultraviolet Monitor, SEM, which continuously measures the EUV flux in a wide band of 17-70 nm, and a narrow band around the 30.4 nm He II line. SEM is mounted on top of the STOF instrument and shares the same electronics.
Description	<p>CELIAS key scientific data products are mission long files of calibrated</p> <ul style="list-style-type: none"> Solar EUV flux at 15 seconds and 1 day cadence, from the SEM detector Solar wind parameters at either 30 seconds, 5 minutes or Carrington Rotation cadence, from the Proton Monitor detector <p>Daily files of MTOF and STOF are available. CTOF is impaired since October 1996.</p>
Publication	Hovestadt, D., et al., CELIAS - Charge, Element and Isotope Analysis System for SOHO, <i>Sol. Phys.</i> , 162, 441-481 (1995); https://doi.org/10.1007/BF00733436
Temporal Coverage	1996 - current
Mission Description	SOHO, the Solar & Heliospheric Observatory, is a project of international collaboration between ESA and NASA to study the Sun from its deep core to the outer corona and the solar wind. SOHO was launched on December 2, 1995. The SOHO spacecraft was built in Europe by an industry team led by prime contractor Matra Marconi Space (now Airbus) under overall management by ESA. The twelve instruments on board SOHO were provided by European and American scientists. Nine of the international instrument consortia are led by European Principal Investigators (PI's), three by PI's from the US. Large engineering teams and more than 200 co-investigators from many institutions supported the PI's in the development of the instruments and in the preparation of their operations and data analysis. NASA was responsible for the launch and is now responsible for mission operations. Large radio dishes around the world which form NASA's Deep Space Network are used for data downlink and commanding. Mission control is based at Goddard Space Flight Center in Maryland. Domingo, V., Fleck, B. & Poland, A.I., The SOHO mission: An overview, <i>Sol. Phys.</i> , 162, 1-37, 1995; https://doi.org/10.1007/BF00733425
Creator Contact	Wimmer-Schweingruber, R., Principal Investigator, University of Kiel, Germany, Email : wimmer Berger, L., Project Scientist, University of Kiel, Germany, Email : berger All Email : @physik.uni-kiel.de



Granularity level for DOI assignment – space science

Minting DOIs depends on the way data is organized for each mission type

Astronomy survey missions (e.g. Gaia, Planck, ...)

- Catalogue of astronomical objects, cosmology maps
- A few DOIs required

Astronomy observatory mission (e.g. HST, XMM – Newton, Herschel)

- Proposal for a particular scientific topic resulting in many observations
- A few thousands of DOIs

Planetary missions (e.g. Rosetta, Mars Express, BepiColombo)

- Dataset for an instrument for a particular mission phase
- A few thousands of DOIs

Heliophysics missions (e.g. SOHO, Solar Orbiter, Cluster)

- 1 DOI for each experiment throughout all mission lifetime
- A few tens of DOIs

Science Mission	Domain	DOIs
HST	Astronomy	10901
XMM - Newton	Astronomy	4270
ISO	Astronomy	3877
Rosetta	Planetary	3594
Mars Express	Planetary	3512
CHEOPS	Astronomy	2971
Herschel	Astronomy	741
Venus Express	Planetary	727
SMART-1	Planetary	22
SOHO	Heliophysics	13
Cluster	Heliophysics	12
Ulysses	Heliophysics	12
Giotto	Planetary	10
ExoMars TGO	Planetary	10
Planck	Astronomy	9
Cassini-Huygens	Planetary	8
Lisa PathFinder	Astronomy	8
Double Star	Heliophysics	8
Solar Orbiter	Heliophysics	7
Chandrayaan-1	Planetary	6
Proba-2	Heliophysics	5
Gaia	Astronomy	4
ISS-SolACES	Heliophysics	1

Around 30.000 DOIs

ESA Data Discovery Portal – data.esa.int



→ THE EUROPEAN SPACE AGENCY



ESA Data Discovery Portal [0.7.0/ALPHA]

Type of Asset

- Datablab
- Dataset

Domain

- Earth Observation (1,811)
- Human and Robotic Exploration (1)
- Navigation (15)
- Space Operations (1)
- Space Science (25,131)

Instrument

Thematic Area

Mission

Properties

Type in your query...

RO-C-OSIWAC-2-EXT2-67PCHURYUMOV-M30

Dataset Overview This CODMAC level 2 data set contains uncalibrated image data in DN unit, acquired by the OSIRIS Wide Angle Camera on the Rosetta spacecraft during the ROSETTA EXTENSION 2 mission phase, covering the period from 20160531T23:25:00.000 to 20160628T23:24:59.000 All header keywords are defined and described in the OSIRIS SIS

RO-X-OSIWAC-2-CR4B-CHECKOUT

Dataset Overview This CODMAC level 2 data set contains uncalibrated image data in DN unit, acquired by the OSIRIS Wide Angle Camera on the Rosetta spacecraft during the CRUISE 42 mission phase, covering the period from 20081006T00:00:00.000 to 20090913T23:59:59.000 All header keywords are defined and described in the OSIRIS SIS

RO-C-RSI-1_2_3-ESC2-0761

Data Set Overview The Rosetta (RO) Radio Science (RSI) Data Archive is a timeordered collection of raw and partially processed data collected during the

RL-CAL-CIVA-3-PDCS

Data Set Overview This data set contains the data referred to PDCS Mission Phase Data Both data, scientific and housekeeping, are collected in this data set. They referred to CODMAC Level 3. Processing Only CODMAC Level 3 data are present in this data set Coordinate System he geometry items SC SUN POSITION VECTOR, SC TARGET POSITION VECTOR, and

RO-C-RSI-1_2_3-ESC2-0684

Data Set Overview The Rosetta (RO) Radio Science (RSI) Data Archive is a timeordered collection of raw and partially processed data collected during the Rosetta Mission to ChuryumGerasimenko. For more information on the investigations see the RSI User Manual [RSIUSERMANUAL2004] in the DOCUMENTS\RSI_DOC folder. This is a Global Gravity measurement covering the

RO-C-RSI-1_2_3-ESC2-0759

Data Set Overview The Rosetta (RO) Radio Science (RSI) Data Archive is a timeordered collection of raw and partially processed data collected during the



→ THE EUROPEAN SPACE AGENCY

Common Portal for all ESA datasets from all disciplines

- ESA branding, homogenous description of ESA datasets through DOI (data.esa.int/asset/<reference>)
- Provides link to the corresponding mission data archive for dataset download
- (In progress) Provides access to tools / software available to analyse the datasets (datalabs)

Simple Search Interface

- Drill down your search through faceted search criteria selection
- Domain, Thematic area, Mission, Instrument

Not an actual data archive

- Does not actually archive datasets (but only common metadata)
- Does not supersede the existing mission data archives

From ESA Data Discovery Portal to Dataset download



THE EUROPEAN SPACE AGENCY

ESA Data Discovery Portal [0.7.0/ALPHA]

Search:

PR3 Legacy CMB Maps
CMB maps have been produced using four different methods: COMMANDER, NILC, SEVEM, and SMICA, as described in the CMB and foreground separation section and also in Appendices AD of Planck 2018 results L04 and references therein. For each method the Planck Collaboration has produced: Fullmission CMB intensity map, with corresponding confidence mask and effective beam transfer function. Fullmission CMB polarisation map, with corresponding confidence mask and effective beam transfer function. Fullmission CMB polarisation map, with corresponding confidence mask and effective beam transfer function. Fullmission CMB polarisation map, with corresponding confidence mask and effective beam transfer function.

Second Planck Catalogue of SunyaevZeldovich Sources (PSZ2)
The Planck Catalogue of SunyaevZeldovich Sources (PSZ) is a nearly fullsky list of 2151 sources extracted from the Planck 2015 results XXIX and Planck 2015 results XXVII. The catalogue is derived from the HFI frequency channel maps after masking and filling the bright point sources (S/N ≥ 40) from the PCCS catalogue in these channels. Three detection pipelines were used to identify sources in the data.

LFI & HFI PR3 Legacy Frequency Sky Maps
Sky maps give the best estimate of the intensity and polarization (Stokes Q and U components) of the signal from the sky after removal of known systematic effects (mostly instrumental but including also the solar and Earthmotion dipoles, Galactic stray light, and the zodiacal light). The Planck Collaboration has made three releases of maps: Planck 2013, 2015 and 2018. These releases are available at www.esa.int/Planck.

Planck list of high redshift source candidates (PHZ)
The Planck list of high redshift source candidates (PHZ) is a list of 2151 sources located in the cleanest 26% of the sky and identified as point sources exhibiting an excess in the submillimetre compared to their environment. It has been built using the 48 months of Planck data at 857, 545, 353, and 217 GHz, combined with the 3TU+ IRAS data as described in Planck 2015 results XXIX. These sources are available at www.esa.int/Planck.

Planck Catalogue of Compact Sources (PCCS2)
The Planck Catalogue of Compact Sources (PCCS) is a set of single frequency lists of sources, both Galactic and extragalactic, extracted from the Planck maps. The first public version of the PCCS was derived from the nominal mission data acquired by Planck between 13 August 2009 and 26 November 2010, as described in Planck 2013 results I. The second version of the PCCS is available at www.esa.int/Planck.

Planck Catalogue of Galactic Cold Clumps (PGCC)
The Planck Catalogue of Galactic Cold Clumps (PGCC) is a list of 13188 Galactic sources and 54 sources located in the Small and Large Magellanic Clouds, identified as cold sources in Planck data, as described in Planck2015A28[20]. The sources are extracted with the CoCoCoDeT algorithm (Montier, 2010), using the Planck 2015 results XXIX. These sources are available at www.esa.int/Planck.

PR3 Legacy CMB Maps Version PR2 and PR3

Overview Details

Query Analyze Download

Dataset

Domain
Space Science

Title
PR3 Legacy CMB Maps

Short name or acronym
LFI and HFI

Description
CMB maps have been produced using four different methods: COMMANDER, NILC, SEVEM, and SMICA, as described in the CMB and foreground separation section and also in Appendices AD of Planck 2018 results L04 and references therein. For each method the Planck Collaboration has produced: Fullmission CMB intensity map, with corresponding confidence mask and effective beam transfer function. Fullmission CMB polarisation map, with corresponding confidence mask and effective beam transfer function. All CMB products are provided at an approximate angular resolution of 5 arcmin FWHM, and HEALPix resolution Nside=2048. Explicit effective beam profiles are provided for each foreground reduced CMB map. For a complete description of the above data structures, see below; the content of the first extensions is illustrated and commented in the table below. Four separate component separation methods are used, which we now describe in turn. The Commander approach implements Bayesian component separation, fitting a parametric model to the data by sampling the corresponding posterior distribution. The computational engine in this approach is standard Gibbs sampling. The general Commander model includes both cosmological parameters (i.e., the CMB map and power spectrum), astrophysical parameters (e.g., synchrotron, freefree, spinning and thermal dust, and CO emission), and instrumental parameters (e.g., calibration factors, absolute zerolevels, and bandpass corrections). The full model was employed in the Planck 2015 analysis (Planck 2015 results X) which included both singledetector Planck maps and external observations from WMAP and Haslam. For the reduction of the Planck 2018 data set, which includes only fullfrequency maps, a simpler model is employed, in which only a single joint powerlaw lowfrequency foreground model is included in the fit, accounting simultaneously for synchrotron, freefree and spinning dust emissi[truncated, see actual data for full text]

Keywords
input cleaned final templates NILC

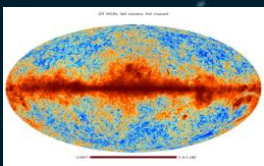
Identifier
<https://data.esa.int/asset/O9x8roLQR8EI>
<https://doi.org/10.5270/esa-zfx8b4s>
http://esdcdci.esac.esa.int/doi/html/data/astronomy/planck/CMB_Maps.html#0

A dataset provided by the European Space Agency

Dataset DOI landing page

DOI	https://doi.org/10.5270/esa-zfx8b4s
Name	PR3 Legacy CMB Maps
Mission	Planck
URL	COM_CMB_IQU-smica_2048_R3.00_full.fits COM_CMB_IQU-sevem_2048_R3.01_full.fits COM_CMB_IQU-nilc_2048_R3.00_full.fits COM_CMB_IQU-commander_2048_R3.00_full.fits

CMB maps have been produced using four different methods: COMMANDER, NILC, SEVEM, and SMICA, as described in the CMB and foreground separation section and also in Appendices A-D of Planck 2018 results L04 and references therein. For each method the Planck Collaboration has produced: Full-mission CMB intensity map, with corresponding confidence mask and effective beam transfer function. Full-mission CMB polarisation map, with corresponding confidence mask and effective beam transfer function. All CMB products are provided at an approximate angular resolution of 5 arcmin FWHM, and HEALPix resolution Nside=2048. Explicit effective beam profiles are provided for each foreground reduced CMB map. For a complete description of the above data structures, see below; the content of the first extensions is illustrated and commented in the table below. Four separate component separation methods are used, which we now describe in turn. The Commander approach implements Bayesian component separation, fitting a parametric model to the data by sampling the corresponding posterior distribution. The computational engine in this approach is standard Gibbs sampling. The general Commander model includes both cosmological parameters (i.e., the CMB map and power spectrum), astrophysical parameters (e.g., synchrotron, freefree, spinning and thermal dust, and CO emission), and instrumental parameters (e.g., calibration factors, absolute zerolevels, and bandpass corrections). The full model was employed in the Planck 2015 analysis (Planck 2015 results X) which included both singledetector Planck maps and external observations from WMAP and Haslam. For the reduction of the Planck 2018 data set, which includes only fullfrequency maps, a simpler model is employed, in which only a single joint powerlaw lowfrequency foreground model is included in the fit, accounting simultaneously for synchrotron, freefree and spinning dust emissi[truncated, see actual data for full text]



Dataset Download



Released in September 2018, targeting

- Open data and open science
- Researchers, data geeks/scientists/journalists, students, ...
- 25M datasets referenced

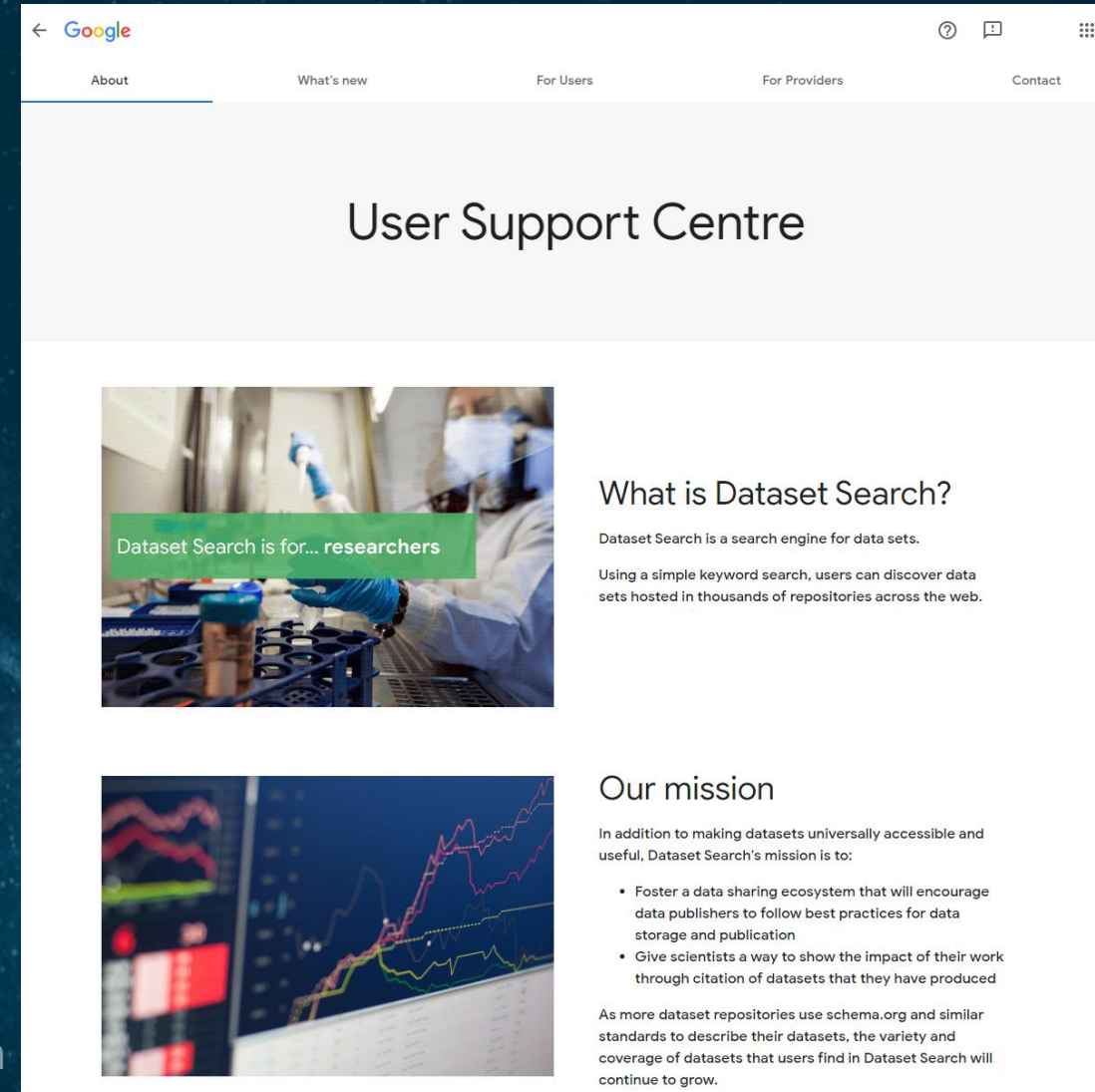
All datasets referenced through schema.org vocabulary

Not clear if really to be used by scientific community which is probably better served through our mission data archives

But ESA datasets need to be properly referenced in Google to ensure access to correct and quality data

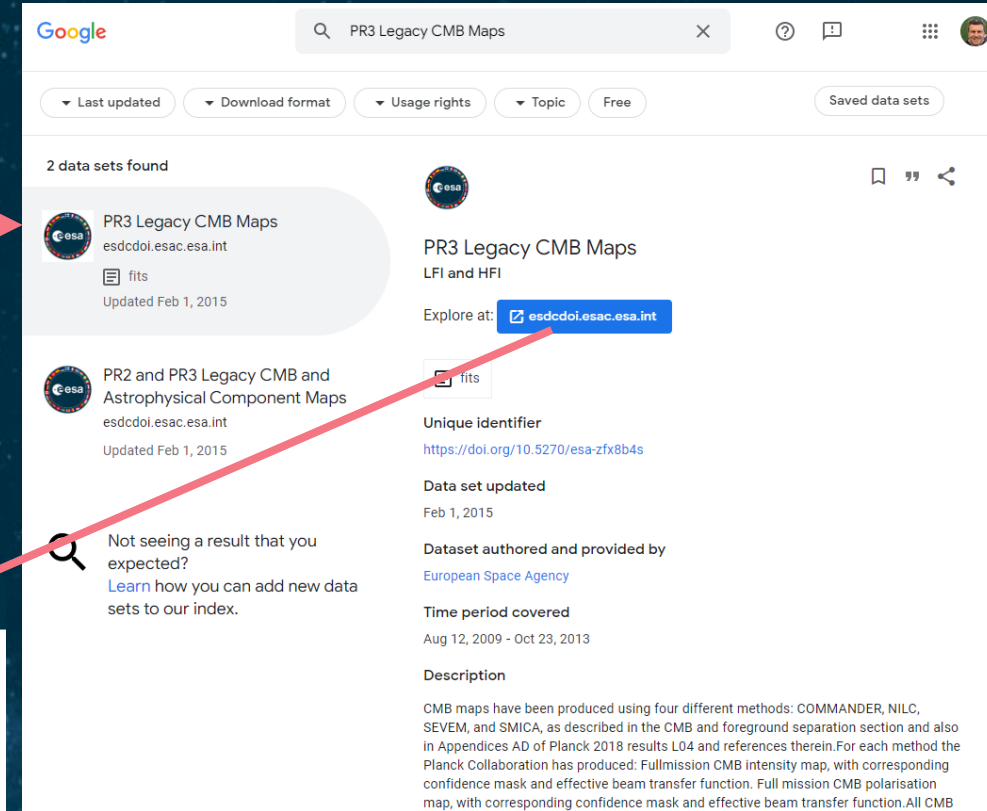
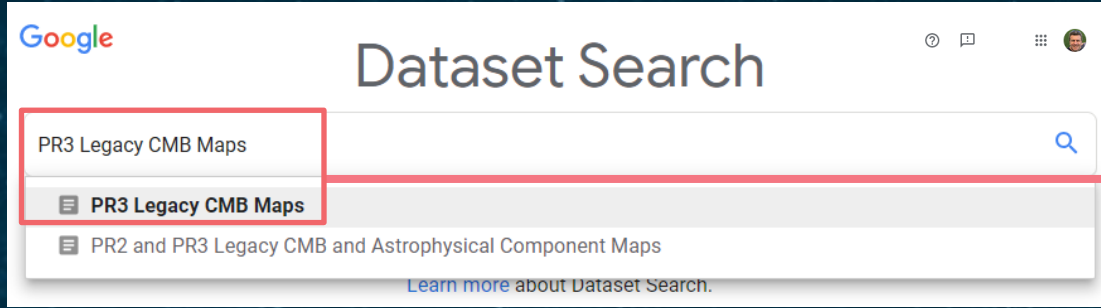
When minting DOI for ESA Dataset, add creation of schema.org for it (as great overlap with DOI metadata)

=> ESA Datasets then get referenced into Google Dataset Search



The screenshot shows the Google Dataset Search User Support Centre page. At the top, there is a navigation bar with links for 'About', 'What's new', 'For Users', 'For Providers', and 'Contact'. The main heading is 'User Support Centre'. Below this, there are two main sections. The first section is titled 'What is Dataset Search?' and includes a sub-heading 'Dataset Search is for... researchers' over an image of a scientist in a lab. The text explains that Dataset Search is a search engine for data sets and that users can discover data sets hosted in thousands of repositories across the web. The second section is titled 'Our mission' and includes a sub-heading 'Our mission' over an image of a computer screen displaying data charts. The text explains that in addition to making datasets universally accessible and useful, Dataset Search's mission is to: Foster a data sharing ecosystem that will encourage data publishers to follow best practices for data storage and publication; Give scientists a way to show the impact of their work through citation of datasets that they have produced. It also states that as more dataset repositories use schema.org and similar standards to describe their datasets, the variety and coverage of datasets that users find in Dataset Search will continue to grow.

From Google Dataset Search to ESA dataset download

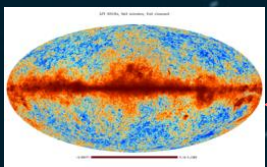


A dataset provided by the European Space Agency

Dataset DOI landing page

DOI	https://doi.org/10.5270/esa-zfx8b4s
Name	PR3 Legacy CMB Maps
Mission	Planck
URL	COM_CMB_IQU-smica_2048_R3_00_full.fits COM_CMB_IQU-sevem_2048_R3_01_full.fits COM_CMB_IQU-nilc_2048_R3_00_full.fits COM_CMB_IQU-commander_2048_R3_00_full.fits

CMB maps have been produced using four different methods: COMMANDER, NILC, SEVEM, and SMICA, as described in the CMB and foreground separation section and also in Appendices A-D of Planck 2018 results L04 and references therein. For each method the Planck Collaboration has produced: Full-mission CMB intensity map, with corresponding confidence mask and effective beam transfer function. Full-mission CMB polarisation map, with corresponding confidence mask and effective beam transfer function. All CMB products are provided at an approximate angular resolution of 5 arcmin FWHM, and HEALPix resolution Nside=2048. Explicit effective beam profiles are provided for each foreground reduced CMB map. For a complete description of the above data structures, see below; the content of the first extensions is illustrated and commented in the table below. Four separate component-separation methods are used, which we now describe in turn. CommanderThe Commander approach implements Bayesian component separation, fitting a parametric model to the data by sampling the corresponding posterior distribution. The component separation is then performed on the CMB maps and foreground products.



Dataset Download



Conclusions and next steps



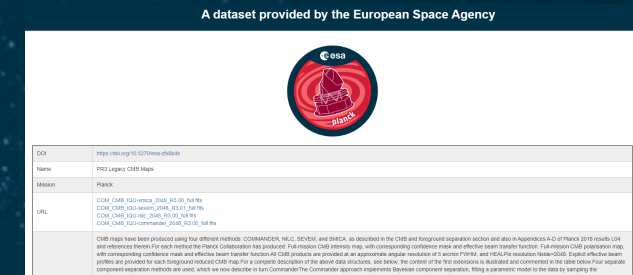
ESA Data Discovery Portal (data.esa.int)

- Offers a unified entry point to all ESA datasets from all ESA directorates
- Is complementary to the existing ESA data archives where data resides



DOI minted for all ESA datasets

- Common metadata description for all
- Granularity depends on type of mission
- Almost complete for Space and Earth Science, in progress for other disciplines



ESA Data Discovery Portal planned to expand to ESA Datalabs science exploitation platform

- Discovery of datasets and discovery of “datalabs”
- From the data to the visualization / analysis tools





Multi-Domain and Multi-Mission Digital Platform

ESA Science Exploitation Platform

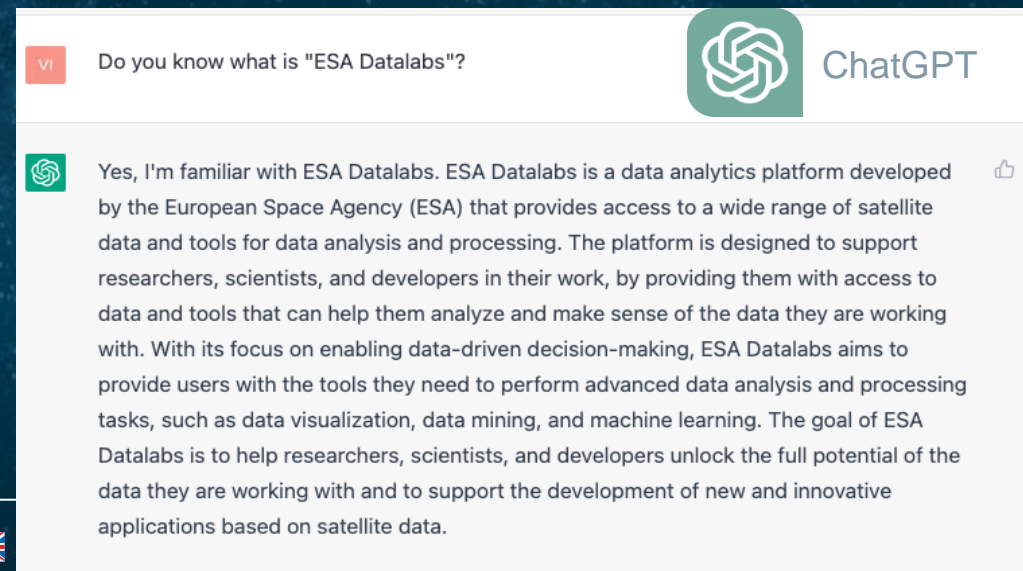
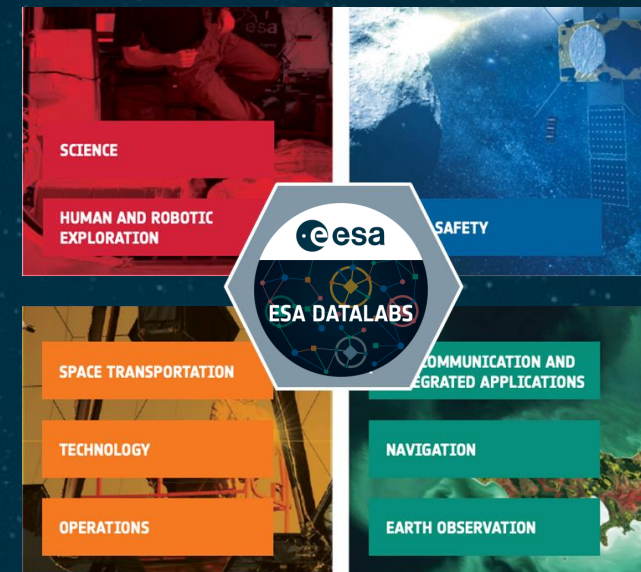
- Science Data available for researchers to work on it, made easy

Increase Science Operations Efficiency

- Reusable for fast implementation of Scientific Processing Pipelines
- Reusable for fast implementation of Scientific Analysis and Visualisation Tools

Collaboration and Open Science

- Share complex processing tools and data with your team
- Share your contributions with the community in ESA Datalabs Science AppStore



From ESA Data Discovery Portal to ESA Datalabs



ESA Data Discovery Portal [0.7.0/ALPHA]

THE EUROPEAN SPACE AGENCY

Search:

Type of Asset: Datalab Dataset

Domain: Earth Observation (2) Space Science (764)

Instrument: Herschel

Mission: Herschel

Properties: Query Tool Visualization Tool Analysis Tool Data Volume

type:dataset

<p>GRB Afterglow Photometry with Herschel Infrared Cameras</p> <p>GRB Afterglow Photometry with Herschel Infrared Cameras openParGRAPHICSclosePar Gammaray bursts openParGRBSclosePar are the most luminous explosions in the universe. It has been difficult to obtain a full spectral picture of the phenomena in the short period when GRBs become visible, comma i.e. when they generate bursts in Gammaray and produce</p>	<p>Completing the PACS coverage of the Herschel Reference Sur...</p> <p>The Herschel Reference Survey openParHRSclosePar is a Herschel Key Program focused on the study of the interplay between dust and star formation in the local universe. The HRS represents the only volume and magnitude-limited Herschel survey of resolved nearby galaxies comma scanning the whole range of morphological types openParParelligate to taking</p>
<p>Far-IR Emission from Planetary Nebulae doublePoint Simulta...</p> <p>We propose to undertake an ambitious Herschel large survey of planetary nebulae openParPNSclosePar comma mustering the full strengths of Herschel's broadband mapping comma spectral mapping comma and spatio-spectroscopic capabilities. Our proposed PN survey will exploit Herschel's unprecedented spatial-resolution power in the far-IR wavelengths to</p>	<p>Stellar Disk Evolution</p> <p>AbstractIn a collaboration between the HSC comma P. Harvey openParMission ScientistclosePar and the three instrument consortia we propose to apply the full power of Herschel to investigate the properties of circumstellar disks. The versatility of Herschel allows us to address several key questions: doublePoint How do the disks evolve with time? doublePoint How do they form out of</p>
<p>Striated Cold Neutral HI Clouds doublePoint Precursors to Fil...</p> <p>One of the early discoveries made with Herschel is the fascinating omnipresence of filamentary structures in all Galactic molecular clouds and the intimate relationship between these filaments and the star formation process. The physical origin of the dusty filaments imaged with Herschel remains an open issue comma however. One likely possibility is that they originate from</p>	<p>New Herschel Multi-wavelength Extragalactic Survey of Edg...</p> <p>Edge-on spiral galaxies are a unique perspective on the vertical structure of spiral disks comma both stars and the iconic dark dust lanes. The thickness of these dust lanes can now be resolved for the first time with Herschel in far-infrared and submm emission. Resolved far-infrared and submm observations of edge-on spirals will impact on several current topics. First and</p>

ESA Datalabs [0.6.1/BETA]

THE EUROPEAN SPACE AGENCY

Choose Datalab

Find a datalab in ESA Datalabs catalog

Filter results

<p>aladin</p> <p>Aladin is an interactive sky atlas allowing the user to visualize digitized astronomical images or full surveys, superimpose entries from astronomical catalogues or databases, and interactively access related</p>	<p>filezilla</p> <p>FileZilla</p>	<p>fv</p> <p>FV - An image display and visualization tool for astronomical data</p>
<p>jl-esdc</p> <p>JupyterLab ESDC</p>	<p>jl-esdc-astro</p> <p>JupyterLab with software and example notebooks for ESDC astronomical archives</p>	<p>jl-euclid</p> <p>Euclid DPS JupyterLab</p>
<p>jl-gaia</p> <p>Datalab based on JupyterLab, customized by the Gaia mission with additional Python libraries and other tools to explore the Gaia DR3 catalogue.</p>	<p>jl-gssc</p> <p>GSSC JupyterLab</p>	<p>jl-herschel</p> <p>Herschel JupyterLab</p>
<p>jl-juice</p> <p>JupyterLab with JUICE moon coverage tool (0.8.0).</p>	<p>jl-pangaia</p> <p>PanGaia JupyterLab</p>	<p>jl-spice</p> <p>SPICE JupyterLab by the SPICE information system with additional Python libraries complementing some SPICE applications. It is a reference environment ></p>
<p>jl-xmm-sas</p> <p>JupyterLab XMM SAS</p>	<p>jupyterlab</p> <p>Plain JupyterLab for demonstration of basic functionality.</p>	<p>jwst</p> <p>JupyterLab JWST</p>
<p>qfsview</p> <p>QFsview - An image display and visualization tool for astronomical data</p>	<p>terminal</p> <p>Multiplexing terminal running Bash.</p>	<p>x-ds9</p> <p>SiCImageDS9 - An image display and visualization tool for astronomical data</p>
<p>x-file-manager</p> <p>Lightweight file manager from LXDE.</p>	<p>x-glab</p> <p>GNSS-Lab Tool (gLAB)</p>	<p>x-octave</p> <p>Scientific Programming Language</p>
<p>x-topcat</p> <p>Tool for Operations on Catalogues And Tables</p>		

Search for Tools associated with data

Launch it directly into ESA Datalabs platform

- Data will automatically be loaded into your datalab
- Start analysing the data

