

H.E.S.S. DL3 public DR1

- Service referenced in [VO registry](#)
- DaCHS software behind
- **TAP** + **ObsCore** table
 - obs_id, s_ra, s_dec...
 - access_url
 - + H.E.S.S. metadata
- Enables blind discovery of the H.E.S.S. data

PADC
Paris Astronomical Data Centre

[Help](#)

[Service info](#)

Metadata

Identifier
ivo://vopdc.obspm/hess_dr

Cite this
[Advice on citing this resource](#)

Description
IVOA ObsCore description of event lists for observations of various well-known gamma-ray sources (the Crab nebula, PKS 2155-304, MSH 15-52, RX J1713.7-3946) as well as observations of empty fields for background modeling.

Keywords
H.E.S.S.

Creator
H.E.S.S. collaboration

Created
2018-09-14T10:00:00Z

Data updated
2018-10-30

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Reference URL
<https://www.mpi-hd.mpg.de/hfm/H.E.S.S./pages/dl3-dr1/>

[Try ADQL](#) to query our data.

[Privacy](#) | [Disclaimer](#)

Table information for 'hess_dr.vo_obscore'

General

Table Description: IVOA ObsCore description of event lists for observations in the H.E.S.S. DL3 public test data release 1

This table is available for [ADQL queries](#) and through the [TAP](#) endpoint.

Resource Description: The release consists of event lists and instrument response functions for observations of various well-known gamma-ray sources (the Crab nebula, PKS 2155-304, MSH 15-52, RX J1713.7-3946) as well as observations of empty fields for background modeling.

For a list of **all services and tables** belonging to this table's resource, see [Information on resource 'H.E.S.S. DL3 public test data release 1'](#)

Resource Reference URL: <https://www.mpi-hd.mpg.de/hfm/H.E.S.S./pages/dl3-dr1/>

Citing this table

To cite the **table as such**, we suggest the following BibTeX entry:

```
@MISC{vo:hess_dr_vo_obscore,  
  year=2018,  
  title={H.E.S.S. DL3 public test data release 1},  
  author={H.E.S.S. collaboration},  
  url={https://www.mpi-hd.mpg.de/hfm/H.E.S.S./pages/dl3-dr1/},  
  howpublished={VO resource provided by the {PADC} {TAP}}  
}
```

Fields

Sorted by DB column index. [\[Sort alphabetically\]](#)

Name	Table Head	Description	Unit
------	------------	-------------	------

VO Data Access tools

VO standards become transparent once used through VO compliant tools

- Aladin
- TOPCAT
- dedicated web service

The screenshot displays the Aladin v10.0 interface, a web-based tool for visualizing and querying astronomical data. The main window shows a star field with various data overlays, including a list of available data sources on the left (e.g., oca, org.gavo.dc, purx, pvot, spectrum.laa, src.pas, swinburne, tohoku.univ.jp, uni-heidelberg.de, vopdc.obspm, Gaia catalog release 2, H.E.S.S. DL3 public test data, PADC TAP Server on vopari, voastro.org, wfau.roe.ac.uk, xaovo, xcatdb, problematic) and a list of available data products on the right (e.g., select, depl, dist, phot, dessin, marq, moc, grille exam, cline, nord, hdr, multivues, un, down, up, filter, taille, dens, opac, zoom). The top right corner shows the 'Projection' dropdown set to 'Aitoff' and the 'Fermi 3' label. The bottom right corner shows a 'TAP access with vopdc.obspm/luth/hess-dr' window, which is a query interface for the HESS DR data. The query window includes a 'Table' dropdown set to 'hess_dr.vo_obscore', a 'Select' dropdown set to 'All', and a 'Constraints' section with 'Add new' and 'Max rows' set to 100. The 'Target' is set to 'crab' and the 'Rayon' is set to 1. The query text is: `SELECT TOP 100 * FROM hess_dr.vo_obscore WHERE CONTAINS(POINT('ICRS', s_ra, s_dec), CIRCLE('ICRS', 83.63308, 22.0145, 0.01666)) = 1`. The window also has buttons for 'Refresh query', 'Check..', 'SYNC', 'Async jobs>>', 'Clear', 'Submit', and 'Fermer'.

Table List

- 4: hess_dl3_dr1_obs_id_020343.fits.gz-3
- 5: hess_dl3_dr1_obs_id_020343.fits.gz-4
- 6: hess_dl3_dr1_obs_id_020343.fits.gz-5
- 7: hess_dl3_dr1_obs_id_023523.fits.gz
- 8: hess_dl3_dr1_obs_id_023523.fits.gz-2
- 9: hess_dl3_dr1_obs_id_023523.fits.gz-3
- 10: hess_dl3_dr1_obs_id_023523.fits.gz-4
- 11: hess_dl3_dr1_obs_id_023523.fits.gz-5

Current Table Properties

Label: hess_dl3_dr1_obs_id_023523.fits.gz
 Location: https://hess-dr.obspm.fr/retrieve/hess-
 Name: EVENTS-1
 Rows: 7,613
 Columns: 5

SAMP
 Messages: ☐ Clients:

109 / 1821 M

Table Access Protection

TOPCAT(1): Table Browser for 1: TAP_2_hess_dr.vo_obscore

	datapro...	datapro...	calib_le...	obs_colle...	obs_id	obs_...
47	event	events	2	HESS-DR	22593	ivo://
48	event	events	2	HESS-DR	22997	ivo://
49	event	events	2	HESS-DR	23040	ivo://
50	event	events	2	HESS-DR	23077	ivo://
51	event	events	2	HESS-DR	23143	ivo://
52	event	events	2	HESS-DR	23246	ivo://
53	event	events	2	HESS-DR	23523	ivo://
54	event	events	2	HESS-DR	23526	ivo://
55	event	events	2	HESS-DR	23559	ivo://
56	event	events	2	HESS-DR	23573	ivo://
57	event	events	2	HESS-DR	23592	ivo://
58	event	events	2	HESS-DR	23635	ivo://
59	event	events	2	HESS-DR	23651	ivo://
60	event	events	2	HESS-DR	23736	ivo://
61	event	events	2	HESS-DR	25345	ivo://

Metadata

Find: hess

☒ Name ☐ Descrip ☐ Or

HESS DL3 DR1 (1/18)
 hess_dr (1/1)
 hess_dr.vo_obscore

Name: hess_dr
 Tables: 1
 Description: The release response for observ

Service Capabilities

Query Language: ADQL-2.0 Max Rows: 200

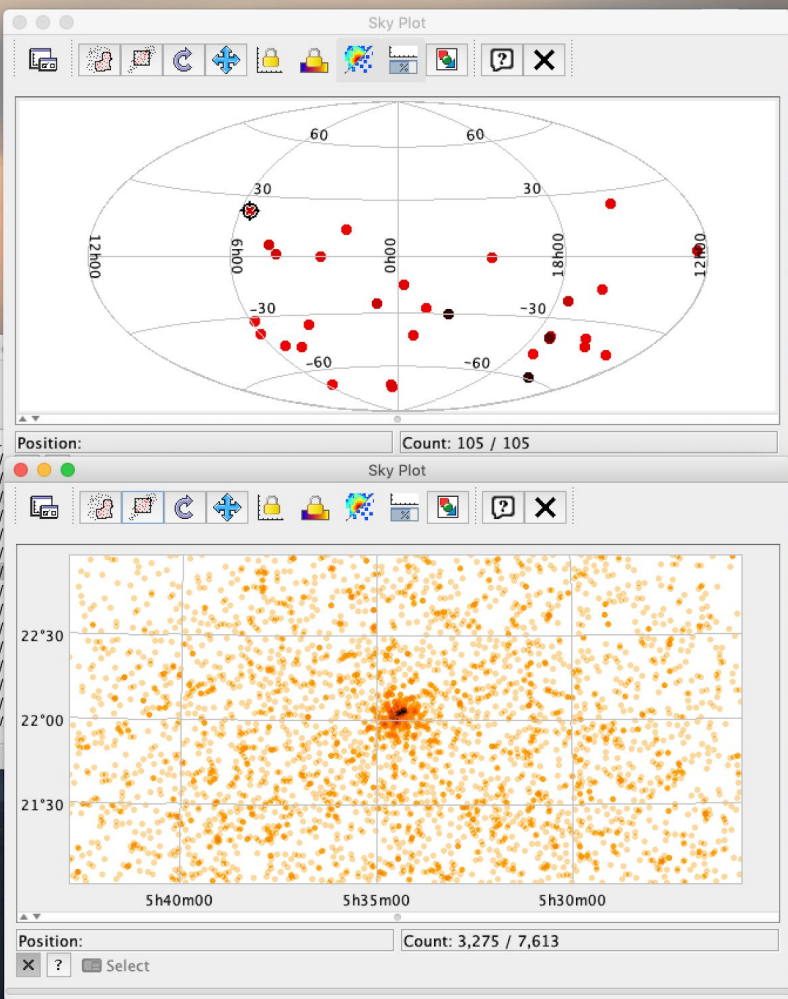
ADQL Text

Mode: Synchronous

SELECT TOP 1000 * FROM hess_dr.vo_obscore

Examples Basic 1/6: Full table

Run Query





CTA Data Distiller

Search Form

Results

Job List

Search

Analyse

Authentication: ✕ Sign out Mathieu Servillat

Results

show/hide query

SELECT * FROM hess_dr.vo_obscore as o WHERE 1 = intersects(o.s_region, circle('ICRS', 329.717000, -30.226000, 0.001000))

Send

ADQL query

IVOA Standards

SAMP

ObsCore fields

	dataproduct_type	obs_collection	obs_id	target_name	s_ra (deg)	s_dec (deg)
☐	event	HESS-DR	33787	PKS 2155-304	329.717	-29.7256
☒	event	HESS-DR	33788	PKS 2155-304	329.138	-30.2256
☐	event	HESS-DR	33789	PKS 2155-304	330.295	-30.2256
☐	event	HESS-DR	33790	PKS 2155-304	329.717	-30.7256
☐	event	HESS-DR	33791	PKS 2155-304	329.717	-29.7256

UWS

Interop (SAMP)

Send Result Table

Send Selected Data

Analysis tools

Count Map(s)

Fit Spectrum

Plotting tools

TOPCAT

Aladin

VOspec

SPLAT

Showing 1 to 5 of 21 rows 5 records per page

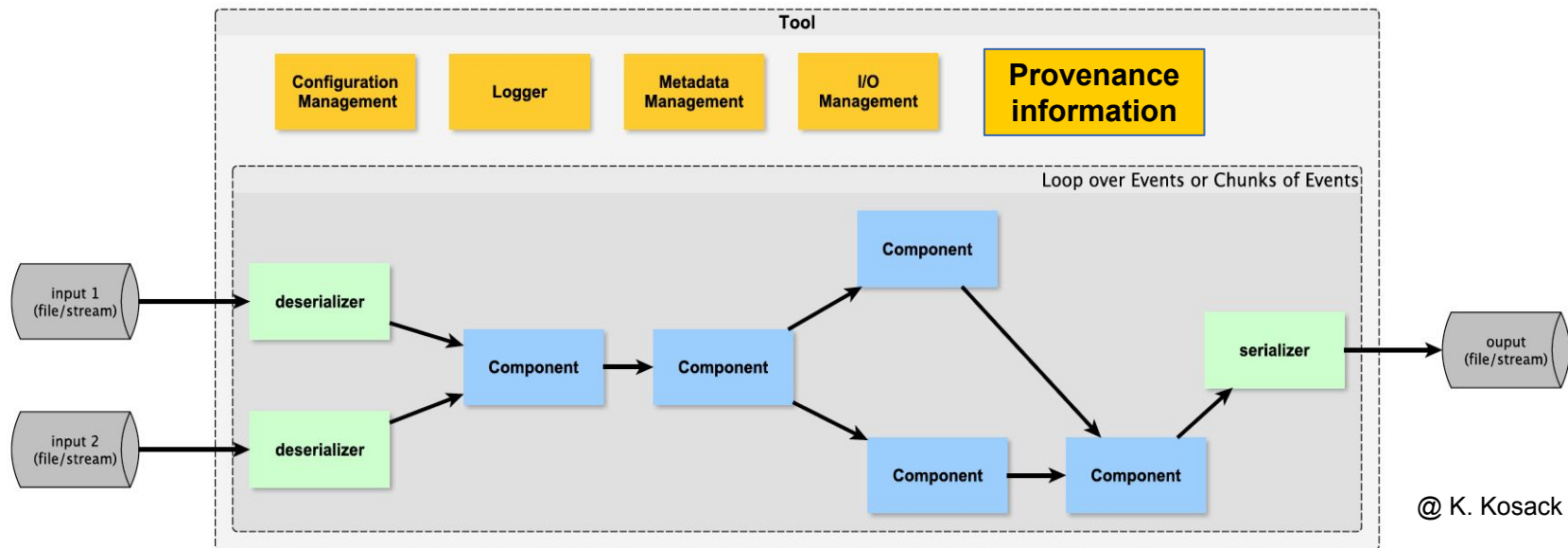
<< < 1 2 3 4 5 > >>

Provenance in ctapipe



- **Tool** Python class providing configuration, logger, I/O management... and Provenance information

<https://cta-observatory.github.io/ctapipe/examples/provenance.html>



@ K. Kosack

Provenance in gammapy

1/ definition.yaml file for description/template (already integrated to the code by the developers)

```
activities:
  get_observations:
    description:
      "Fetch observations from the data store according
      to criteria defined in the configuration"
    parameters:
      - name: datastore
        description: "DataStore path as string"
        value: settings.observations.datastore
      - name: filters
        description: "Filter criteria to select observations"
        value: settings.observations.filters
    usage:
      - role: datastore
        description: "DataStore object file"
        entityType: DataStore
        location: settings.observations.datastore
    generation:
      - role: observations selected
        description: "Observations selected"
        entityType: Observations
        value: observations
        has_members:
          entityType: Observation
          list: observations.list
          id: obs_id
          namespace: ""
  get_datasets:
    description: "Produce reduced datasets"
    parameters:
```

2/ entries automatically stored in the log file

```
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:05
.884436_PROV{'activity_id': '9456793112', 'activity_name': 'get_observations', 'startTime':
'2019-10-07T11:20:05.884436'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091102_PROV{'activity_id': '9456793112', 'parameters': {'datastore':
'SGAMMAPY_DATA/hess-dl3-dr1', 'filters': [{'filter_type': 'par_value', 'value_param':
'Crab', 'variable': 'TARGET_NAME']}}
INFO:gammapy.utils.provenance.provenance:PROV_The entity is a file with
hash=3585d8a6f0ad20fece226aa22dd9dfd2 ($GAMMAPY_DATA/hess-dl3-dr1/obs-index.fits.gz)
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091413_PROV{'activity_id': '9456793112', 'used_role': 'datastore', 'used_id':
'3585d8a6f0ad20fece226aa22dd9dfd2', 'entity_type': 'DataStore', 'entity_location':
'$GAMMAPY_DATA/hess-dl3-dr1'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091474_PROV{'activity_id': '9456793112', 'generated_role': 'observations selected',
'generated_id': '295524570', 'entity_type': 'Observations'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091527_PROV{'entity_id': '295524570', 'member_id': '23592', 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091571_PROV{'entity_id': '295524570', 'member_id': '23523', 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091613_PROV{'entity_id': '295524570', 'member_id': '23526', 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091653_PROV{'entity_id': '295524570', 'member_id': '23559', 'member_type': 'Observation'}
INFO:gammapy.utils.provenance.provenance:PROV_2019-10-07T11:20:06
.091691_PROV{'activity_id': '9456793112', 'endTime': '2019-10-07T11:20:06.091068'}
```

<https://openprovenance.org/store/documents/1191.svg>

3/ export to W3C PROV or search in provenance records

@ M. Servillat & J. E. Ruiz

OPUS
Job Definition
Job List
Signed in as testuser

Job Definition

Name
gammapy_maps
Load JDL
Get JDL
Job name.

Description
Use gammapy to generate a count map from a list of observations
Job description.

URL
https://luthgitlab.obspm.fr/j

Contact name
Julien Lefaucheur

Contact email

Parameters

obs_ids
=
47802 47803 47804 471
Req.? ☒
xs:string
↑
↓
✕

Desc.
List of runs

Options
List of possible choices (comma-separated values)

Attr.
unit=... ucd=... utype=... min=... max=...

RA
=
329.7169379
Req.? ☒
xs:double
↑
↓
✕

Desc.
Target Right Ascension

Options
List of possible choices (comma-separated values)

Attr.
unit=deg

List of parameters, with name, default value, type and description. Specify if the parameter is required by checking the box (if not, the parameters won't be shown by the client and the default value will always be used). A list of options can be specified (comma-separated values). Additional attributes can be defined (unit, ucd, utype, min, max).

Used

obs_ids
=
47802 47803 47804 47827 47
image/fits
↑
↓
✕

Desc.
List of runs

File ☐ or value ☐ or ID ☒ + access URL
http://url_to_the_input_file?id=\$ID

List of input entities (e.g. files) used with their name and content type. The input is a File or an ID, possibly with a URL to resolve the ID and download the file (use \$ID in the URL).

Generated

count_map
=
count_map.fits
image/fits
↑
↓
✕

Desc.
Count map

count_preview
=
count_map.png
image/png
↑
↓
✕

Desc.
Count map preview

significance_map
=
significance_map.fits
image/fits
↑
↓
✕

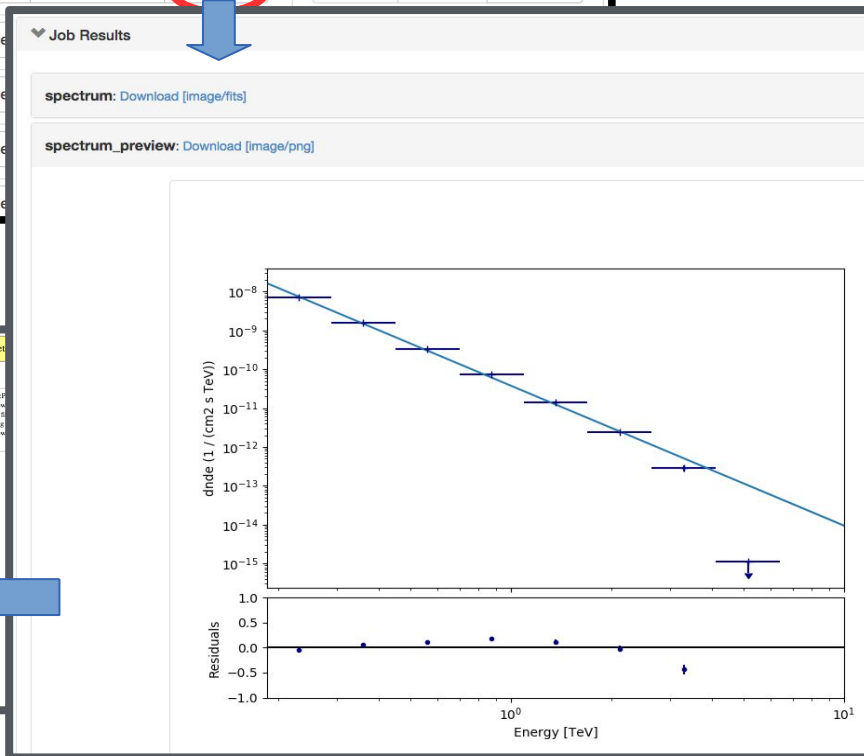
List of possible results with their name and content type. A default name can be provided. Note that a result can refer to a parameter (if it has the same name), e.g. the name of an output file generated by the script.

OPUS
Observatoire de
Paris
UWS Server

OPUS Job Definition Job List Signed in as user

Job List for **gammapy_spectra** Refresh Job List Create Test Job Create New Job

Type	Start Time	Destruction Time	Phase	Details	Control
gammapy_spectra	2017-10-02 10:47:07	2017-11-01 10:47:05	COMPLETED	Properties Parameters Results	Start Abort Delete
gammapy_spectra		2017-11-01 10:47:03	PENDING	Properties	
gammapy_spectra	2017-09-29 15:07:52	2017-10-29 15:07:51	COMPLETED	Properties	
gammapy_spectra	2017-09-29 14:55:10	2017-10-29 14:55:09	ABORTED	Properties	
gammapy_spectra	2017-09-29 14:21:20	2017-10-29 14:21:19	COMPLETED	Properties	



Tracking of Provenance informations

