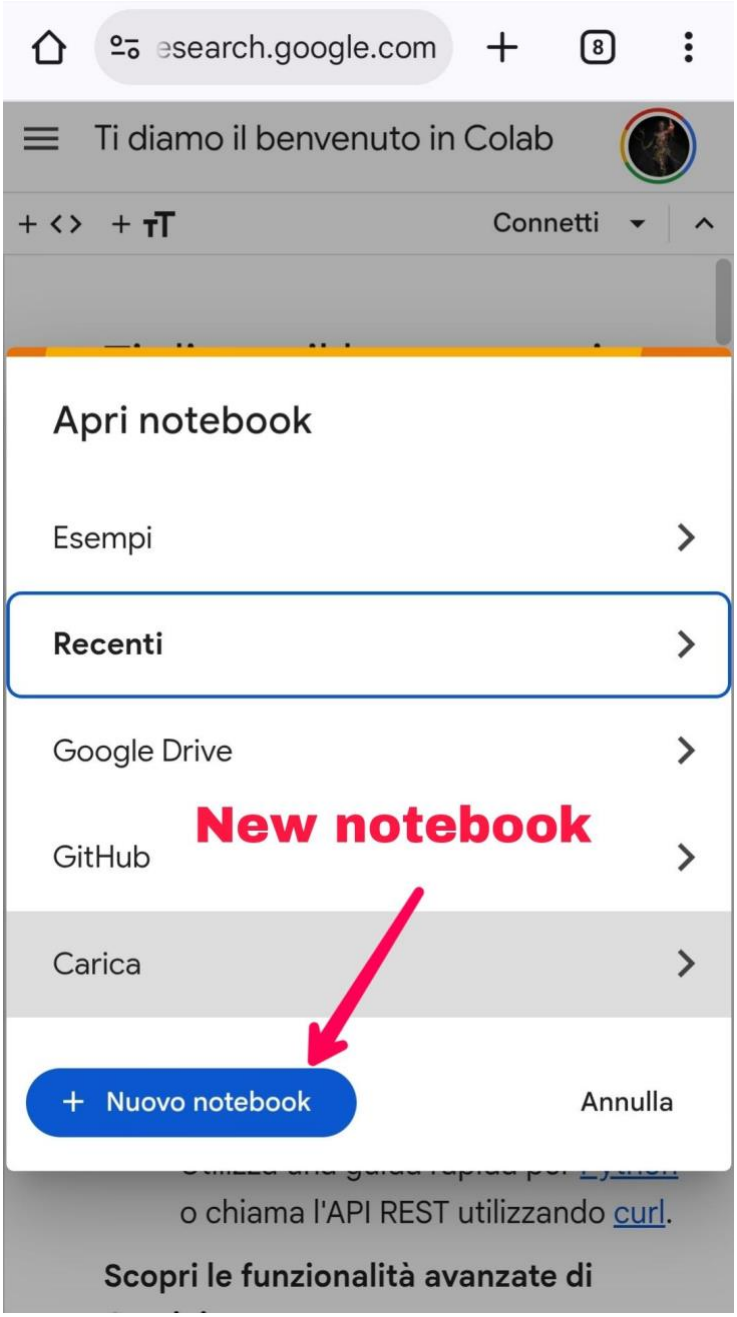
1.) OPEN YOUR GOOGLE COLAB AND CREATE NEW NOTEBOOK (ON YOUR PC OR SMARTPHONE) – NO SUBSCRIPTION NEEDED



2.) COPY-PASTE CARBONETTE FROM GOOGLE COLAB FOLDER ON GITHUB CARBONETTE REPOSITORY. (Be sure to copy all code since is long)

Carbonette.ipynb

+ <> + TT Connetti

[ ]

```
# === Single-cell CNT quick-look + S

# Colab-ready. Incolla i dati in DAT

# Parser tollerante: ignora i numeri


# -------------------- PASTE YOUR DA

DATA = """

# Replace with your numbers. Tolerat

1
5.21725
1.750791
0.013038
0

1
5.24749
1.797884
0.013055
0

1
5.27773
1.754747
0.012888
0

1
```

3.) OPEN IRSA CATALOG (ON GOOGLE) TO GET A NEW TARGET OBJECT TO ANALYZE.

4.) CLICK ON SPITZER ICON.

Spitzer Space Telescope

Spitzer Heritage Archive | Catalog Search | Spitzer Documentation

Mission Characteristics

Lifetime:	2003-2020
Wavelength:	3-180 μm
Area Coverage:	Targeted
Instruments:	• Infrared Array Camera (IRAC), covering bands centered at 3.6, 4.5, 5.8 and 8.0 μm • Infrared Spectrograph (IRS), a low and moderate resolution spectrograph spanning 5.2 to 38 μm • Multiband Imaging Photometer (MIPS), covering bands centered nominally at 24, 70, and 160 μm
Science Products Generated:	• Raw, calibrated and post-calibration data from IRAC, IRS and MIPS • Spitzer Legacy, Exploration Science, and contributed data
Funding Agency:	NASA
Canonical Papers:	Spitzer Mission - Werner et al. (2004) Infrared Array Camera (IRAC) - Fazio et al. (2004) Infrared Spectrograph (IRS) - Houck et al. (2004) Multiband Imaging Photometer for Spitzer (MIPS) - Rieke et al. (2004) Details on how to acknowledge Spitzer data and/or funding are provided in the documentation.

IRSA Services & Documentation - Spitzer Space Telescope

Spitzer Heritage Archive	Interface to the Spitzer Heritage Archive, providing access to all publicly available data from the mission.
Spitzer Documentation	Documentation for all aspects of the Spitzer mission.
Data Analysis Tools	Spitzer data analysis tools.
Youtube Tutorials	Tutorial videos for Spitzer data.
Spitzer Catalog Queries	Access Spitzer Enhanced Imaging Products (SEIP) Tables and Legacy Catalogs.
Image Cutouts	Generate cutout FITS (and JPEG) images from Spitzer image collections.
Cloud Access	Access SEIP Super Mosaics available in AWS S3 cloud storage.

Click on Spitzer Enhanced Products

Major Programs

SEIP: Spitzer Enhanced Imaging Products	Super Mosaics and Source List for the Spitzer cryogenic mission.
Spitzer IRS Enhanced Products (Documentation)	16,986 merged low-resolution IRS spectra.
Frontier Fields	Spitzer imaging of the Frontier Fields.
Spitzer FLS	Spitzer and ancillary data for the First Look Survey.
SAFIRES: Spitzer Archival FIR Extragalactic Survey	Mosaics and Source Lists for MIPS 70 and 160 micron data.

Spitzer Legacy/Exploration Science Programs - Galactic Data Sets

C2D: From Molecular Cores to Planet-Forming Disks	Images, spectra, catalogs, ancillary
CSI2264: The Coordinated Synoptic Investigation of NGC 2264	Light curves, catalogs
A Spitzer Legacy Survey of the Cygnus-X Complex	Images, catalogs
FEPS: The Formation and Evolution of Planetary Systems	Images, spectra, catalog, ancillary
GLIMPSE: Galactic Legacy Infrared Midplane Survey Extraordinaire	Images, catalogs
MIPSGAL: A 24 and 70 Micron Survey of the Inner Galactic Disk with MIPS	Images
SASS: Spitzer Archive of Stellar Spectra	Spectra, catalog
Taurus 2: Finishing the Spitzer Map of the Taurus Molecular Clouds	Images, catalog
YSOVAR: Young Stellar Object Variability	Light curves, catalogs

NASA/IPAC INFRARED SCIENCE ARCHIVE

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IRS Enhanced Spectrophotometric Products (IRS_Enh) Overview

IRS_Enh Overview | IRS_Enh Primary Data Access | IRS_Enh Catalogs

Overview

The Enhanced Products consist of two elements: (1) A collection of 16,986 low-resolution, merged spectra, and (2) A Catalog of extracted source positions, synthetic photometry in several bands, PSF profile widths, and other useful quantities. These products were produced starting with the final SSC pipeline (ver. 18.18) bksub.tbl SL and LL spectra. The bksub.tbl spectra were extracted from the nod two minus nod one and nod one minus nod two background-subtracted basic calibrated data, using an aperture that expands linearly with wavelength. The calibrated fluxes are consequently strictly valid only for point sources.

If you use IRS_Enh data, please cite both the IRS Instrument Handbook and the dataset Digital Object Identifier (DOI): 10.26131/IRSA399.

Jump to documentation.

Data Set Characteristics

Data Product	Description	Data Access
Spectra	Spitzer/IRS	• Image and Spectrum Server (DCE) • Browseable Directories
Catalog	IRS Enhanced Products Catalog	• Catalog Search Tool • Program Interface

IRS_Enh Documentation

General	Catalogs
IRS Instrument Handbook	Catalog Column Descriptions

SSC Spitzer Science Center

NASA/IPAC INFRARED SCIENCE ARCHIVE

ABOUT | HOLDINGS | DATA ACCESS | HELP Login

General Catalog Query Engine

powered by Gator

Quick Guide | Tutorial | Catalog List | Process Monitor | Program Interface

CATALOG SELECTION: Spitzer

Spitzer Enhanced Imaging Products Select

Selecti	Descriptions	# Columns	# Rows	Information
○	SEIP Source List	198	42089764	
○	SEIP IRAC Coverage Table	26	1507981824	
○	SEIP MIPS Coverage Table	10	335507612	
○	SEIP Traceback Table	16	11940855	

Spitzer IRS Enhanced Products Select

Selection	Descriptions	# Columns	# Rows	Information
◉	IRS Enhanced Products	85	16986	

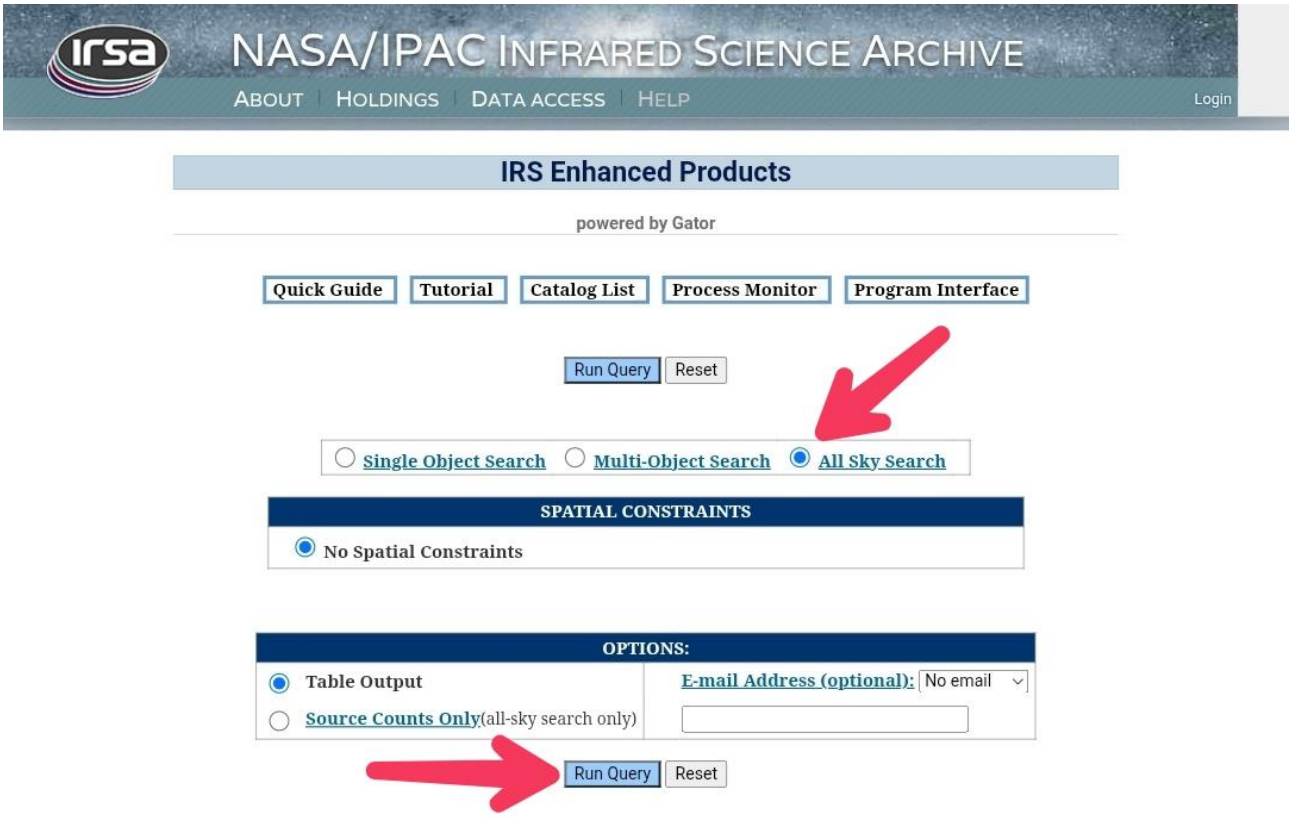
Spitzer Abell 1763 Select

Selection	Descriptions	# Columns	# Rows	Information
○	Abell 1763 Source Catalog	94	10876	
○	Abell 1763 MIPS 70 micron Catalog	15	733	

From Molecular Cores to Planet-Forming Disks (C2D) Select

Selection	Descriptions	# Columns	# Rows	Information
○	C2D Fall '07 Full CLOUDS Catalog (CHA_II, LUP, OPH, PER, SER)	146	4261028	
○	C2D Fall '07 High Reliability (HREL) CLOUDS Catalog (CHA_II, LUP, OPH, PER, SER)	146	614037	
○	C2D Fall '07 candidate Young Stellar Objects (YSO) CLOUDS Catalog (CHA_II, LUP, OPH, PER, SER)	146	1087	
○	C2D Fall '07 Full OFF-CLOUD Catalog (CHA_II, LUP, OPH, PER, SER)	146	704023	
○	C2D Fall '07 High Reliability (HREL) OFF-CLOUD Catalog (CHA_II, LUP, OPH, PER, SER)	146	118562	
○	C2D Fall '07 candidate Young Stellar Objects (YSO) OFF-CLOUD Catalog (CHA_II, LUP, OPH, PER, SER)	146	7	
○	C2D Fall '07 Full CORES Catalog	146	840881	
○	C2D Fall '07 High Reliability (HREL) CORES Catalog	146	173932	
○	C2D Fall '07 candidate Young Stellar Objects (YSO) CORES Catalog	146	317	
○	C2D Fall '07 Full STARS Catalog	146	213449	
○	C2D Fall '07 High Reliability (HREL) STARS Catalog	146	28167	
○	C2D Fall '07 candidate Young Stellar Objects (YSO) STARS Catalog	146	67	

5.) CATALOG SEARCH TOOL – OPEN AND SELECT SPITZER ENHANCED PRODUCTS FROM LIST.



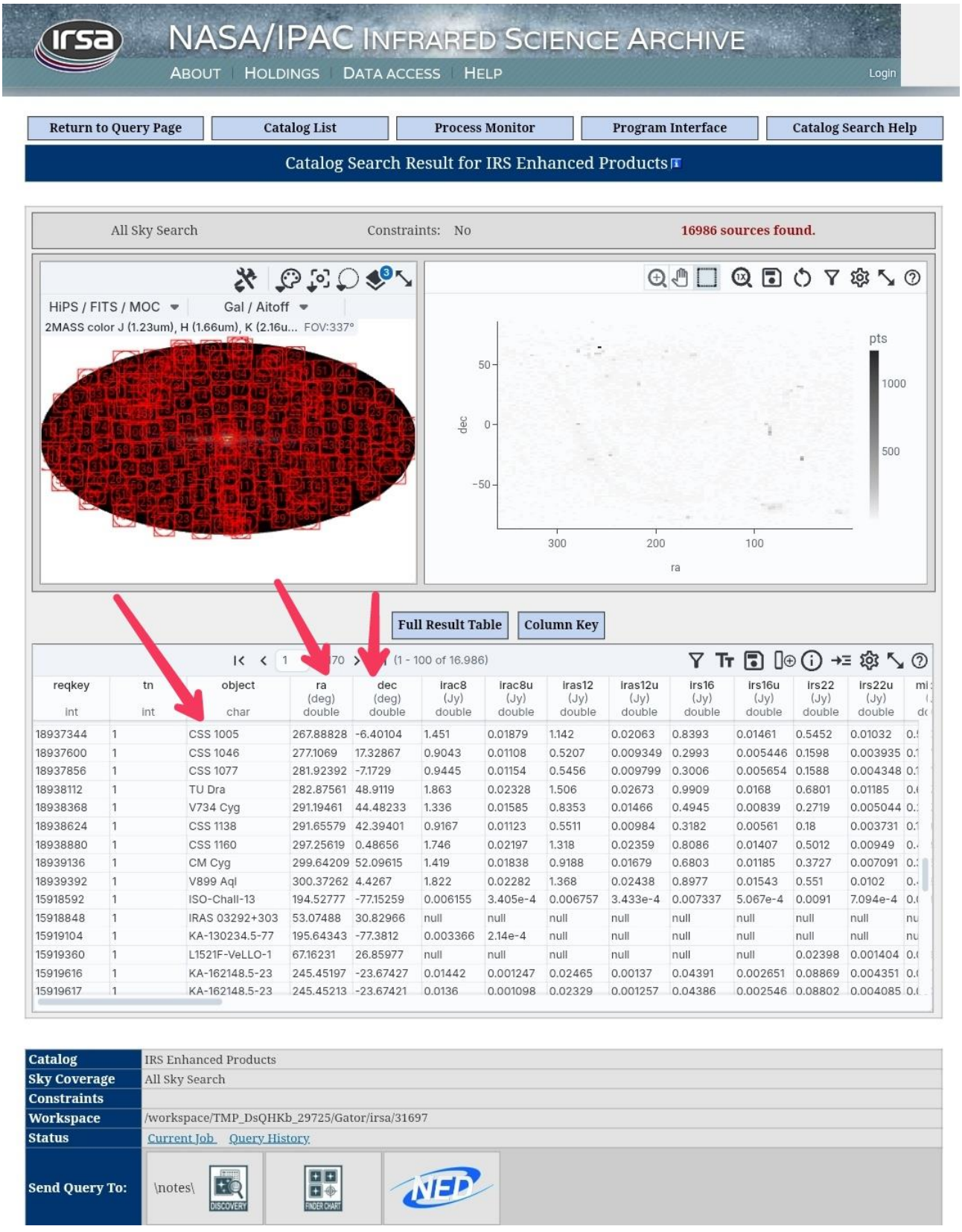
COLUMN CONSTRAINTS/OUTPUT COLUMN SELECTION

Select All Columns | Clear All Selections | Reset

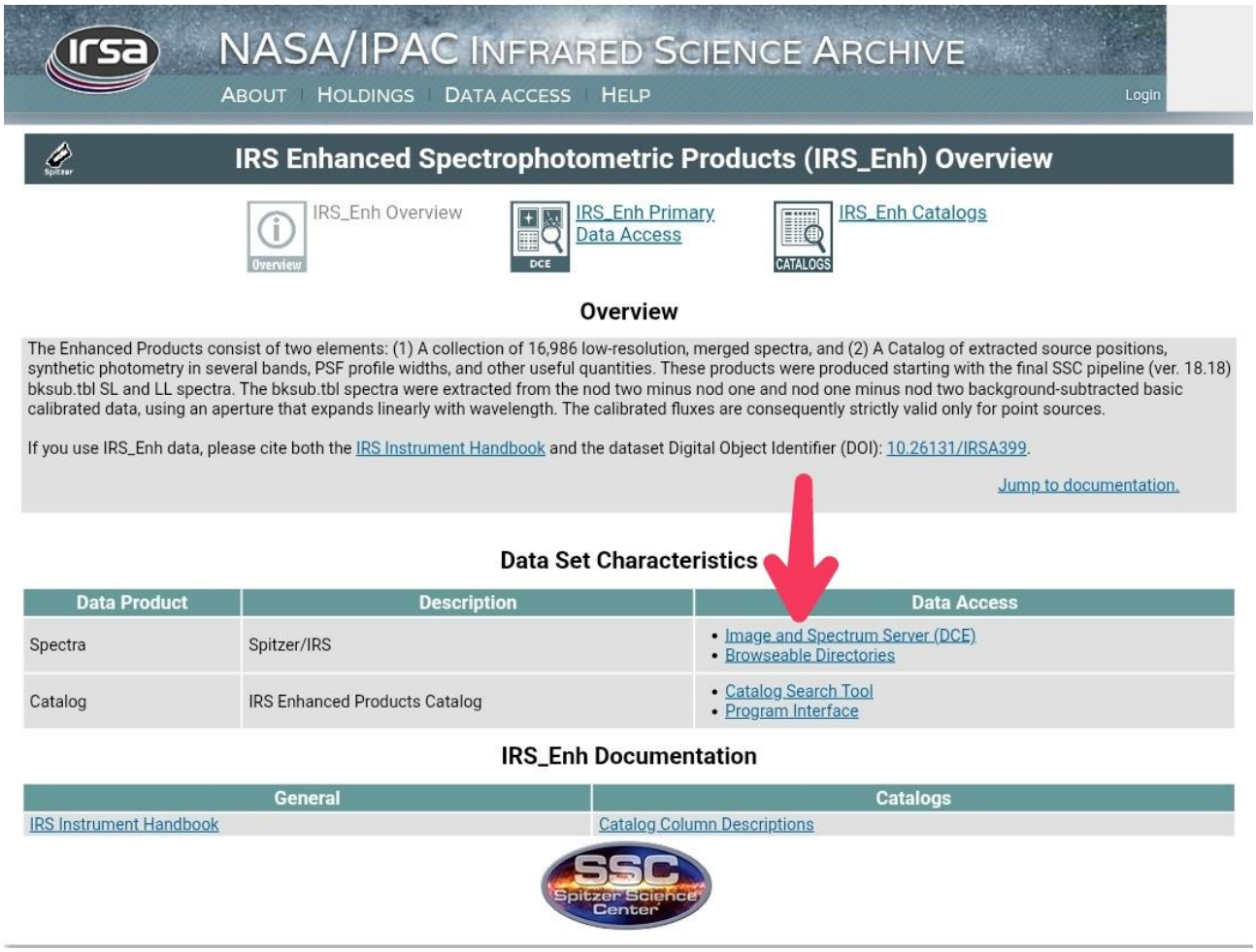
Table Selection: Standard | Long Form — Sexagesimal Output: No

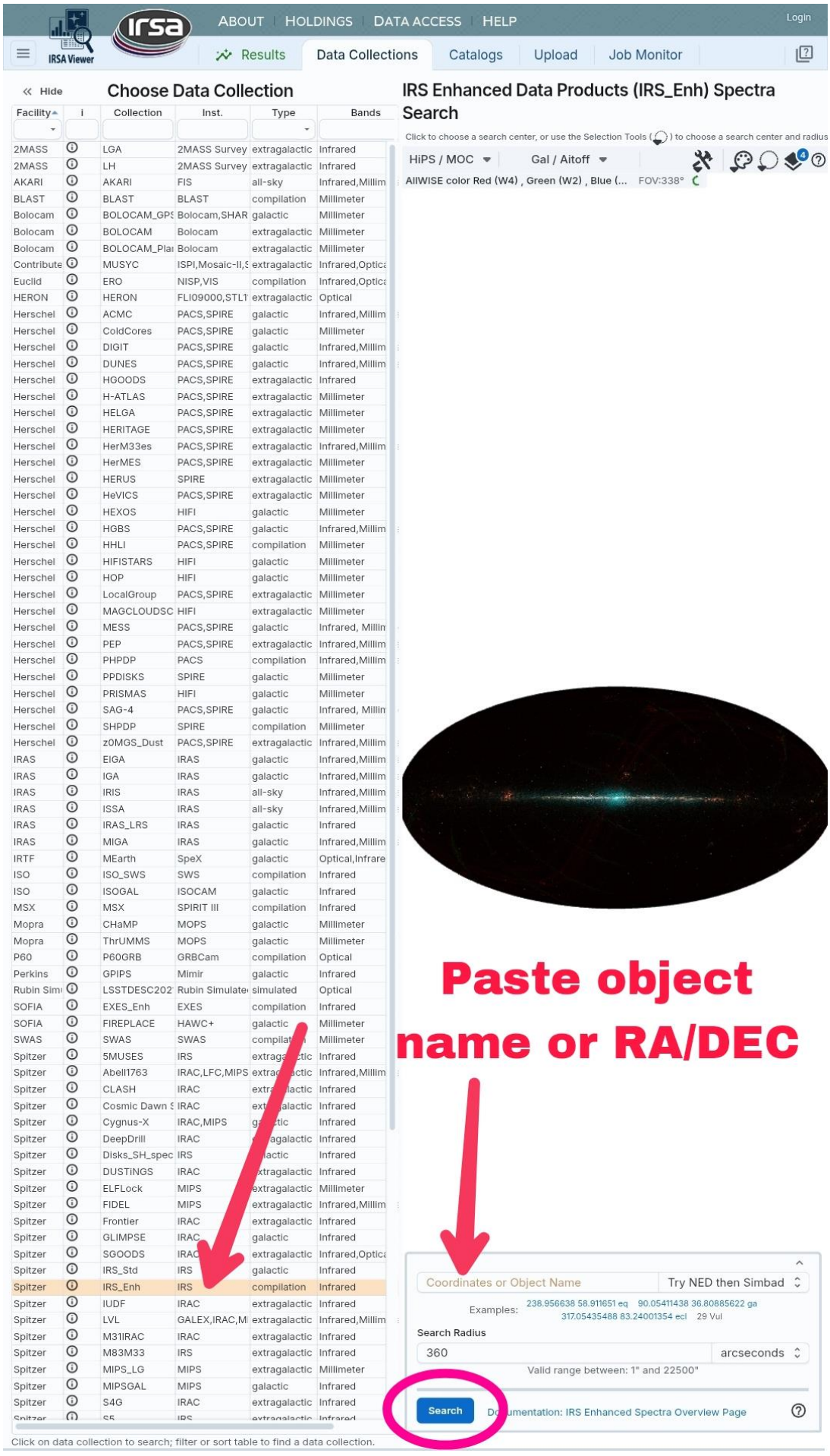
Name	Description	Sel	Low Limit (include >,≥,=)	Up Limit (include <,≤,=)	Units	Indx	DBType
reqkey	Spitzer Request ID	☑					number(10)
tn	Nth Target in this AOR	☑					number(10)
object	Object name specified by observer	☑					varchar2(21)
ra	Primary Extraction RA J2000.				deg		float(63)
dec	Primary Extraction DEC J2000				deg		float(63)
irac8	IRAC 8 um flux	☑			Jy		float(63)
irac8u	IRAC 8 um flux unc				Jy		float(63)
iras12	IRAS 12 um flux	☑			Jy		float(63)
iras12u	IRAS 12 um flux unc				Jy		float(63)
irs16	IRS 16 um flux	☑			Jy		float(63)
irs16u	IRS 16 um flux unc				Jy		float(63)
irs22	IRS 22 um flux	☑			Jy		float(63)
irs22u	IRS 22 um flux unc				Jy		float(63)
mips24	MIPS 24 um flux	☑			Jy		float(63)
mips24u	MIPS 24 um flux unc				Jy		float(63)
iras25	IRAS 25 um flux	☑			Jy		float(63)
iras25u	IRAS 25 um flux unc				Jy		float(63)
mips24_irac8	color ratio: MIPS24 / IRAC8	☑					float(63)
mips24_irs16	color ratio: MIPS24 / IRS16	☑					float(63)
irs16_irac8	color ratio: IRS16 / IRAC8	☑					float(63)
iras25_iras12	color ratio: IRAS25 / IRAS12	☑					float(63)
ra_sl	Mean extraction RA for SL (orders 1&2)	☑			deg		float(63)
dec_sl	Mean extraction DEC for SL (orders 1&2)	☑			deg		float(63)
pa_sl	Mean FOV_PA for SL (orders 1&2)	☑			deg		float(63)
ra_ll	Mean extraction RA for LL (orders 3&4)	☑			deg		float(63)

6.) SELECT ALL SKY SEARCH AND RUN QUERY. You now have all the objects with name and RA/DEC you can copy-paste.



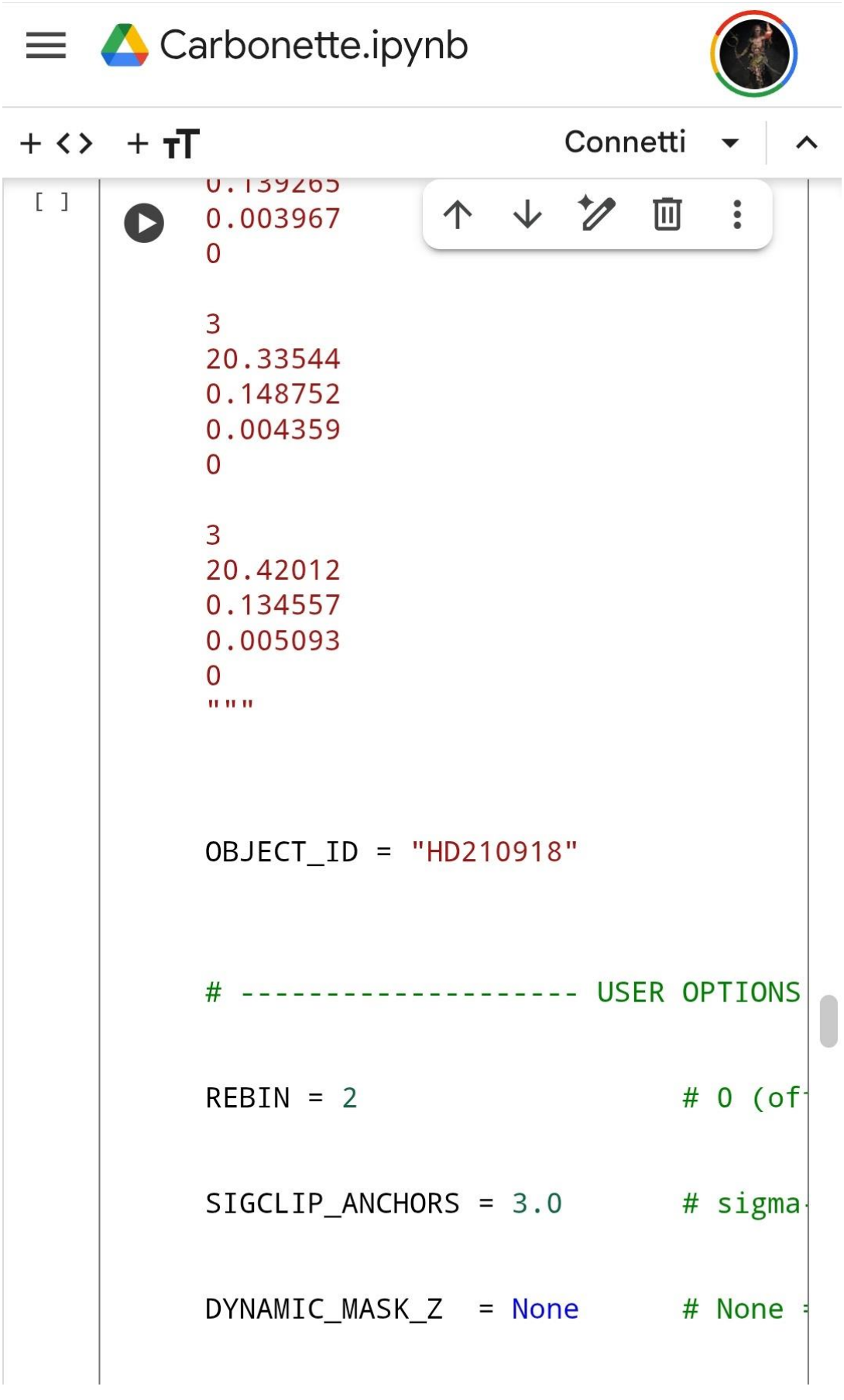
7.) OPEN SPITZER DATA COLLECTION TO GET THE DATA. IMAGE AND SPECTRUM SERVER.




ABOUT | HOLDINGS | DATA ACCESS | HELP
Login
IRSA Viewer
Results
Data Collections
Catalogs
Upload
Job Monitor
Hide
Choose Data Collection
IRS Enhanced Data Products (IRS_Enh) Spectra Search
Click to choose a search center, or use the Selection Tools ( ) to choose a search center and radius
HiPS / MOC
Gal / Aitoff
AllWISE color Red (W4) , Green (W2) , Blue (... FOV:338°
Facility
i
Collection
Inst.
Type
Bands
2MASS LGA 2MASS Survey extragalactic Infrared
2MASS LH 2MASS Survey extragalactic Infrared
AKARI AKARI FIS all-sky Infrared,Millim
BLAST BLAST BLAST compilation Millimeter
Bolocam BOLOCAM_GPS Bolocam,SHAR galactic Millimeter
Bolocam BOLOCAM Bolocam extragalactic Millimeter
Bolocam BOLOCAM_Pla Bolocam extragalactic Millimeter
Contribute MUSYC ISPI,Mosaic-II,S extragalactic Infrared,Optica
Euclid ERO NISP,VIS compilation Infrared,Optica
HERON HERON FLI09000,STL1 extragalactic Optical
Herschel ACMC PACS,SPIRE galactic Infrared,Millim
Herschel ColdCores PACS,SPIRE galactic Millimeter
Herschel DIGIT PACS,SPIRE galactic Infrared,Millim
Herschel DUNES PACS,SPIRE galactic Infrared,Millim
Herschel HGOODS PACS,SPIRE extragalactic Infrared
Herschel H-ATLAS PACS,SPIRE extragalactic Millimeter
Herschel HELGA PACS,SPIRE extragalactic Millimeter
Herschel HERITAGE PACS,SPIRE extragalactic Millimeter
Herschel HerM33es PACS,SPIRE extragalactic Infrared,Millim
Herschel HerMES PACS,SPIRE extragalactic Millimeter
Herschel HERUS SPIRE extragalactic Millimeter
Herschel HeVICS PACS,SPIRE extragalactic Millimeter
Herschel HEXOS HIFI galactic Millimeter
Herschel HGBS PACS,SPIRE galactic Infrared,Millim
Herschel HHLI PACS,SPIRE compilation Millimeter
Herschel HIFISTARS HIFI galactic Millimeter
Herschel HOP HIFI galactic Millimeter
Herschel LocalGroup PACS,SPIRE extragalactic Millimeter
Herschel MAGCLOUDSC HIFI extragalactic Millimeter
Herschel MESS PACS,SPIRE galactic Infrared, Millim
Herschel PEP PACS,SPIRE extragalactic Infrared,Millim
Herschel PHPDP PACS compilation Infrared,Millim
Herschel PPDISKS SPIRE galactic Millimeter
Herschel PRISMAS HIFI galactic Millimeter
Herschel SAG-4 PACS,SPIRE galactic Infrared, Millim
Herschel SHPDP SPIRE compilation Millimeter
Herschel z0MGS_Dust PACS,SPIRE extragalactic Infrared,Millim
IRAS EIGA IRAS galactic Infrared,Millim
IRAS IGA IRAS galactic Infrared,Millim
IRAS IRIS IRAS all-sky Infrared,Millim
IRAS ISSA IRAS all-sky Infrared,Millim
IRAS IRAS_LRS IRAS galactic Infrared
IRAS MIGA IRAS galactic Infrared,Millim
IRTF MEarth SpeX galactic Optical,Infrare
ISO ISO_SWS SWS compilation Infrared
ISO ISOGAL ISOCAM galactic Infrared
MSX MSX SPIRIT III compilation Infrared
Mopra CHaMP MOPS galactic Millimeter
Mopra ThrUMMS MOPS galactic Millimeter
P60 P60GRB GRBCam compilation Optical
Perkins GPIPS Mimir galactic Infrared
Rubin Simu LSSTDESC202 Rubin Simulate simulated Optical
SOFIA EXES_Enh EXES compilation Infrared
SOFIA FIREPLACE HAWC+ galactic Millimeter
SWAS SWAS SWAS compilat Millimeter
Spitzer 5MUSES IRS extra tic Infrared
Spitzer Abell1763 IRAC,LFC,MIPS extra tic Infrared,Millim
Spitzer CLASH IRAC extra tic Infrared
Spitzer Cosmic Dawn S IRAC ext alactic Infrared
Spitzer Cygnus-X IRAC,MIPS ga tic Infrared
Spitzer DeepDrill IRAC agalactic Infrared
Spitzer Disks_SH_spec IRS tic Infrared
Spitzer DUSTINGS IRAC xtragalactic Infrared
Spitzer ELFLock MIPS extragalactic Millimeter
Spitzer FIDEL MIPS extragalactic Infrared,Millim
Spitzer Frontier IRAC extragalactic Infrared
Spitzer GLIMPSE IRAC galactic Infrared
Spitzer SGOODS IRAC extragalactic Infrared,Optica
Spitzer IRS_Std IRS galactic Infrared
Spitzer IRS_Enh IRS compilation Infrared
Spitzer IUDF IRAC extragalactic Infrared
Spitzer LVL GALEX,IRAC,M extragalactic Infrared,Millim
Spitzer M31IRAC IRAC extragalactic Infrared
Spitzer M83M33 IRS extragalactic Infrared
Spitzer MIPS_LG MIPS extragalactic Millimeter
Spitzer MIPSGAL MIPS galactic Infrared
Spitzer S4G IRAC extragalactic Infrared
Spitzer S5 IRS extragalactic Infrared
Click on data collection to search; filter or sort table to find a data collection.
Paste object name or RA/DEC
Coordinates or Object Name
Try NED then Simbad
Examples: 238.956638 58.911651 eq 90.05411438 36.80885622 ga
317.05435488 83.24001354 ecl 29 Vul
Search Radius
360
arcseconds
Valid range between: 1" and 22500"
Search
Documentation: IRS Enhanced Spectra Overview Page


ABOUT | HOLDINGS | DATA ACCESS | HELP
Login
IRSA Viewer
Results
Data Collections
Catalogs
Upload
Job Monitor
PAGES
Data Product: IRS_Enh Spectra - 2
Table
Spectrum
Details
Spitzer IRS Enhanced Products
of 4
(1 - 39 of 39)
order int
wavelength (microns) double
flux_density (Jy) double
error (Jy) double
bit-flag int
Name char
s_ra 169.8496
s_dec -47.96463
facility_name Spitzer Space Telescope
dataid_instrument IRS
dataproduct_subtype science
calib_level 3
dataset_type spectrum
dataid_bandpass Infrared
curation_publisherdid ivo://irsa.ipac/spitzer_irsenh/18934784
min_wavelength 5.21725e-6
max_wavelength 3.786356e-5
spec_rp 120
spec_val 2.1540404999999998e-5
spec_bw 3.264631e-5
energy_transition_species
energy_transition_transition
energy_restwav
dataid_title Spitzer IRS Enhanced Products
access_url https://irsa.ipac.caltech.edu/data/SPITZER/Enhance
access_format text/plain
access_size
texposure
dataid_collection spitzer_irsenh
dataid_date 2012-01-12 00:00:00
proposal_id
dataset_datamodel IRS Enhanced Products Pipeline
curation_reference https://irsa.ipac.caltech.edu/data/SPITZER/docs/irs,
target_name CSS 739
s_fov
tstart 54177.07337962964
tstop
tmid
texposure_eff
coord_obs [169.8496,-47.96463]
curation_publisher NASA/IPAC-IRSA
curation_date 2020-11-09 12:32:27.334035-08
dataid_creator
dataset_length
upload_row_id 1
Copy all numbers in order from all pages and paste them between the "" in Collab
1 spectroscopy
IRS_Enh Spectra - 2
Prepare Download
Data Help
of 1
(1 - 1 of 1)
s_ra (deg) double
s_dec (deg) double
facility_name char
dataid_instrument char
dataproduct_subtype char
calib_level short
dataset_type char
dataid_bandpass char
169.8496
-47.96463
Spitzer Space Telescope
IRS
science
3
spectrum
Infrared

8.) Paste them into CARBONETTE by substituting default data and object name. PRESS PLAY!



9.) ENJOY THE REPORT!