

External Data Centres ? FoV restricted —

Dashboard TAP Registry VizieR ESA

Filter TAP services...

Add	Short Name [▲]	
	filter column...	filter column...
<input type="checkbox"/>	TAPVizieR	TAP VizieR query engine
<input type="checkbox"/>	HEASARC	HEASARC Xamin Catalog Interface
<input type="checkbox"/>	IRSA TAP	IRSA Table Access Protocol (TAP) Service
<input type="checkbox"/>	GAIA	Gaia TAP
<input type="checkbox"/>	GAVO DC TAP	GAVO Data Center TAP service

Rows: 127

TAP Registry Access and ADQL in ESASky

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 WinterWay & Quasar Science Resources for ESA, ESAC Science Data Centre (ESDC)
 On behalf of Bruno Merín, Philip Matsson, Marcos Lopez-Cañiego, Elena Puga,
 Alexandros Marantos & Guido de Marchi in the ESDC

12/05/2023

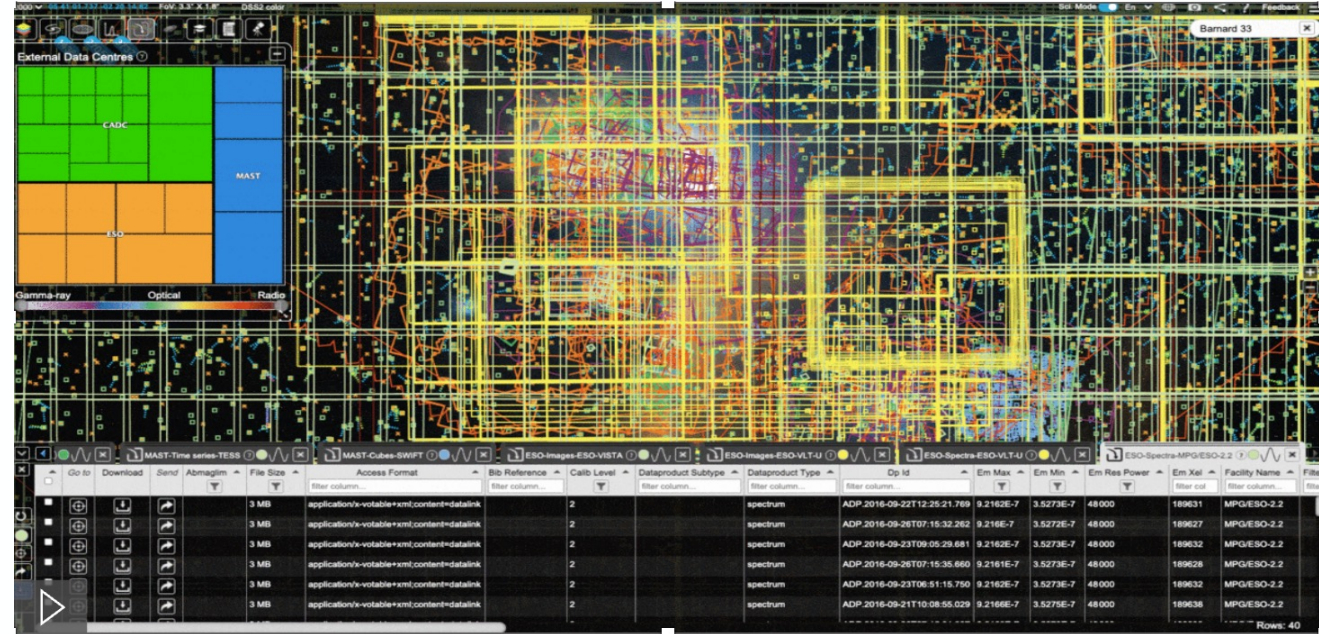


Introduction: ESASky

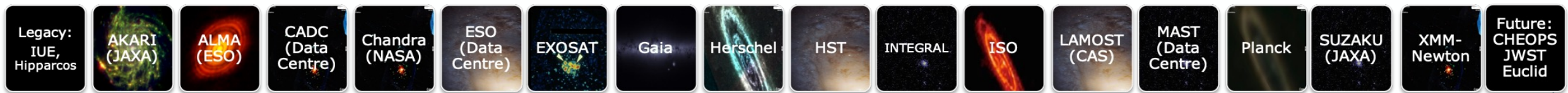


Goal: a scientific tool to facilitate data discovery and archival science

- Multi-wavelength and multi-mission portal
 - Driven by scientific use cases and needs from the scientific community
 - Exploration and Data Discovery
 - Archival science and unplanned science!
-
- Interface 'on top of' all ESA astronomy archives + others



ESASky <https://sky.esa.int>



IVOA TAP Registry Access in ESASky



- TAP registry & GAVO's Global Tap Schema
- UCDs & Utypes
- ObsCore tables allows cooler things
- ADQL
- Dealing with all services
 - Ignoring "TOP" ADQL limit
 - Broken TAP_SCHEMAS
 - Wrong UCDs

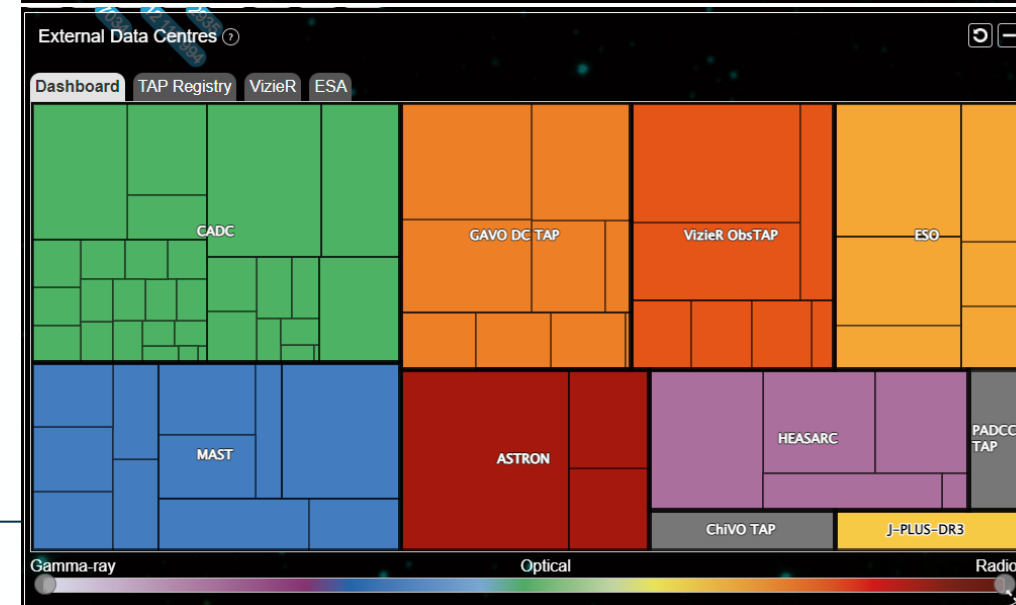
External Data Centres

Dashboard TAP Registry VizierR ESA

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Add	Short Name	Title	Subjects	Identifier	Public
+	TAPVizieR	TAP VizieR query engine	TAP	ivo://cds.vizieR/tap	CDS
+	HEASARC	HEASARC Xamin Catalog Interface	high energ...	ivo://nasa.heasarc/services/xamin	NAS
+	IRSA TAP	IRSA Table Access Protocol (TAP) Service	Infrared As...	ivo://irsa.ipac/tap	NAS
+	GAIA	Gaia TAP	ESA, Gaia...	ivo://esavo/gaia/tap	Eurc
+	GAVO DC TAP	GAVO Data Center TAP service	catalogs, v...	ivo://org.gavo.dc/tap	The
+	ARI-Gaia	ARI's Gaia TAP Service	Gaia	ivo://uni-heidelberg.de/gaia/tap	Astr
+		Gaia@AIP TAP Service	tap	ivo://gaia.aip.de/tap	Leib
+	SDSS DR6	SDSS DR6 SEGUE - Sloan Digital Sky Survey Data Release 6	Stars, Surv...	ivo://wfau.roe.ac.uk/sdssdr6-dsa	WFJ
+	ESASky Legacy	ESASky Legacy TAP	ESA, ESA...	ivo://esavo/esaskylegacy/tap	Eurc
+	ESASky	ESASky TAP	ESA, ESA...	ivo://esavo/esasky/tap	Eurc
+	ESO TAP_CAT	ESO TAP_CAT: a TAP service to query the astronomical catal...	catalogs, l...	ivo://eso.org/tap_cat	Eurc

Rows: 127



- Forced to use GAVO's GloTS - Solved with RegTAP 1.2.
- Couldn't use polygon queries – Using cone search

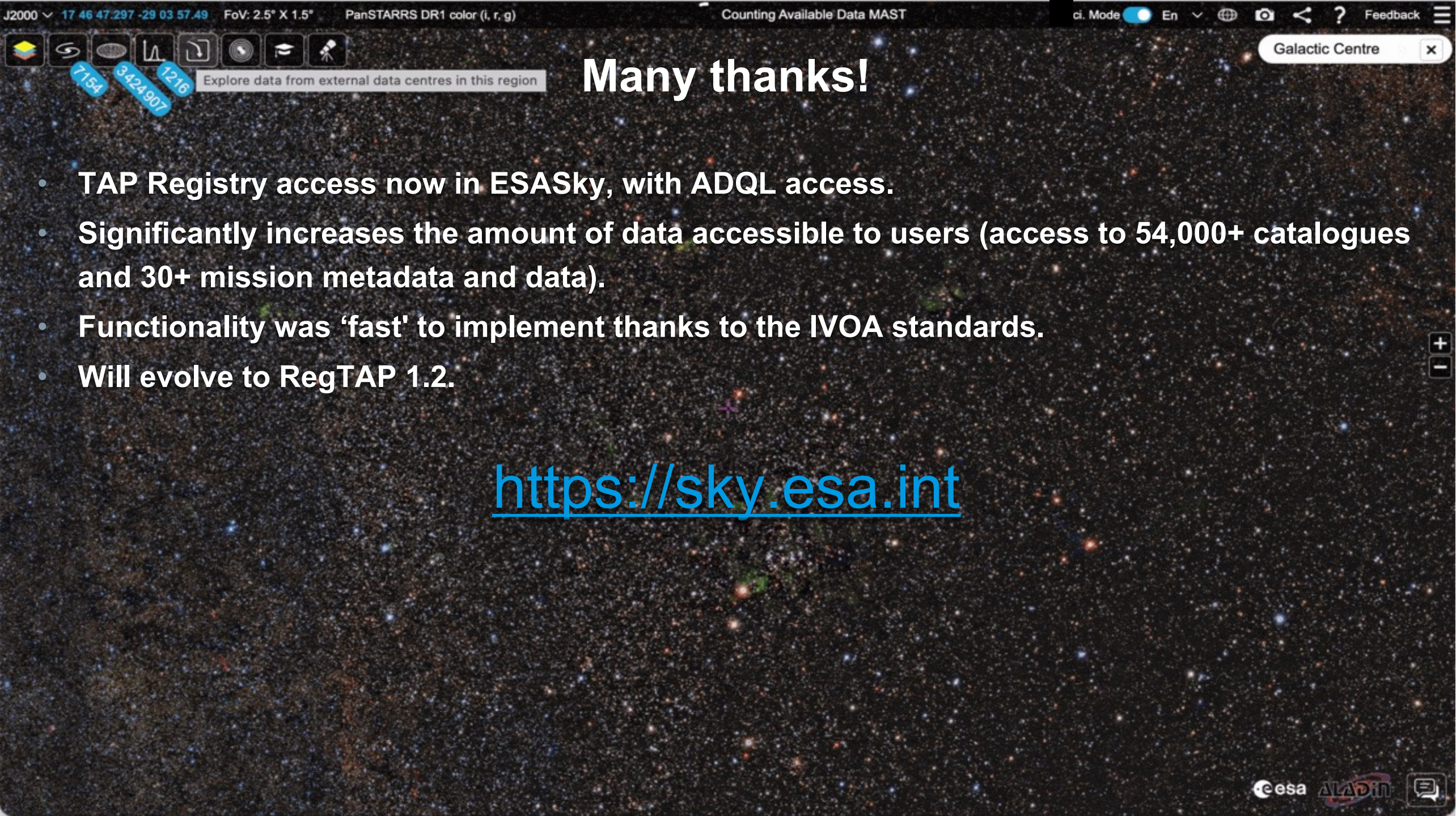
The screenshot shows the ALMA data browser interface. At the top, it displays coordinates: J2000 05 41 42.700 -01 54 44.00, FoV: 60' X 39', and DSS2 color. A search bar is visible in the top right. The main view is a star field with a red polygon query box overlaid on a cluster of stars. Below the image is a table of observation data.

Go to	Download	Archive	Observation ID	RA (J2000)	Dec (J2000)	Target name	Start Time	Duration (s)	Band	Min Frequency (GHz)	Max Frequency (GHz)	Scientific Category
			filter column...			filter column...			filter cr			filter column...
			uid://A001/X129e/X541	05h 41m 40.500s	-01° 54' 16.25"	NGC_2024_Mosaic	58 110.2059	441.359	6	217.4797	232.9743	Disks and planet formation
			uid://A001/X133d/X334	05h 41m 39.975s	-01° 55' 25.86"	NGC2024B	58 465.2458	7529.76	6	249.0457	267.6641	ISM and star formation
			uid://A001/X133d/X336	05h 41m 39.975s	-01° 55' 25.86"	NGC2024B	58 447.2347	16 148.16	6	249.0461	267.6719	ISM and star formation
			uid://A001/X133d/X3a8d	05h 41m 44.090s	-01° 54' 45.00"	HOPS-384	58 403.4397	18.66	7	330.5465	345.9143	ISM and star formation
			uid://A001/X133d/X3a8d	05h 41m 45.940s	-01° 56' 26.16"	HOPS-304	58 403.4397	18.66	7	330.5465	345.9143	ISM and star formation
			uid://A001/X133d/X3a9d	05h 42m 02.620s	-02° 07' 45.84"	HOPS-303	58 400.3624	18.66	7	330.5458	345.9138	ISM and star formation
			uid://A001/X133d/X3aac	05h 41m 45.380s	-01° 51' 56.88"	HOPS-305	58 411.3611	37.319	7	330.5447	345.9113	ISM and star formation

Demo

See: https://youtu.be/Ht2G2Y70x_g
& <https://youtu.be/wIA2gse8q7I>

- TAP Registry access now in ESASky, with ADQL access.
- Significantly increases the amount of data accessible to users (access to 54,000+ catalogues and 30+ mission metadata and data).
- Functionality was 'fast' to implement thanks to the IVOA standards.
- Will evolve to RegTAP 1.2.



Many thanks!

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