

# WIRR

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IVOA Interop, Madrid, May 18-23



- 1 Introduction to WIRR
- 2 WIRR Access and Usage
- 3 WIRR Demo

res_title	creator_seq
ARI Catalog of Catalogs	Wielen, R.; Erbach, M.; Schwan, H.; Demleitner, M.; et al.
ARIGFH identified objects	Schwan, H.; Demleitner, M.; Wielen, R.; et al
HDAP -- Heidelberg Digitized Astronomical Plates	Mandel, H., Birkle, K., Landessternwarte Heidelberg
ARIGFH object catalog	Schwan, H.; Demleitner, M.; Wielen, R.; et al
Flash/Heros SSAP	Wolf, B.; Kaufer, A.; Mandel, H.; Stahl, O.
ARI	GAVO Data Center
HDAP -- Heidelberg Digitized Astronomical Plates	Mandel, H., Birkle, K., Landessternwarte Heidelberg
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Spectroscopy of 6 LMC RR Lyrae and 3 SMC RR Lyrae stars	Erbach M., Schwan H., Kersch B., Kaufer A., Hansen C.J., Koch A.
Southern Reference Star Catalogue (Smith+ 1980)	Smith C.A., Jackson J.G., Laidler T., Hughes J.A., Khruitskaya E.V., Polojentsev A.
D., Polojentsev D.D., Yagudin L.I., Zverev M.S.	
Accretion in disks in Cep OB2 (Sicilia-Aguilar+, 2010)	Sicilia-Aguilar A., Henning T., Hartmann L.W.
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G.P.	
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AGK3R (Smith 1990)	Smith C. A. Jr.
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# What is WIRR?

- M. Demleitner et al. (2014): “IVOA Registry Relational Schema”:
  - ▶ interface for searchable registries
  - ▶ spec available at <http://www.ivoa.net/documents/RegTAP/>
  - ▶ PR-status since Feb 27, 2014
  - ▶ Markus gave a talk on this yesterday
- WIRR is a user interface to the relational registry
  - ▶ acronym stands for **W**eb **I**nterface to the **R**elational **R**egistry
  - ▶ inspired by VODesktop (N. Winstanley et al.)
  - ▶ technology: HTML, JavaScript/jQuery 1.x/Ajax, Python
  - ▶ browsing the VO for resource records
  - ▶ interoperating with VO applications, e.g. TOPCAT

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# How to use WIRR?

# Access and Appearance

- URL: <http://dc.g-vo.org/WIRR>

The screenshot shows a web browser window with the title "GAVO Data Center Web Interface to the Relational Registry - Mozilla Firefox". The address bar contains the URL "dc.g-vo.org/wirr/q/ui". The page content includes a sidebar with navigation links like "Quick Start", "Help", and "Fill form for...". The main area features a search interface with two rows of criteria: "Text Fields" set to "match" with the value "spiral", and "Service Capability" set to "is" with the value "Image Access". Below the search criteria are controls for "Show 20 items per page" and "Skip the first 0 items", along with a "Run Query" button. The search results list two items: "2MASS Large Galaxy Atlas" and "HST WFPC2 Spiral Galaxies", each with a small icon of a person.

# WIRR's Main Components (I): Helper Documentation

- **Quick Start:** provides two short examples on how to query the relational registry using WIRR
- **Help:** gives information about the search criteria and the usage of WIRR in combination with other VO applications
  - ▶ **Info links:** information about a specific search criterion



The screenshot shows the 'GAVO Data Center Web Interface to the Relational Registry' in a Mozilla Firefox browser. The page title is 'Web Interface to the Relational Registry'. On the left, there is a sidebar with navigation links: 'Quick Start', 'Help', 'Image Services', 'Spectral Services', 'TAP Services', 'CitTAP Services', 'Radio Resources', 'IR Resources', 'UV Resources', and 'Query history'. The main content area features a search form with two rows of criteria: 'Text Fields' set to 'match' and 'spiral', and 'Service Capability' set to 'is' and 'Image Access'. Each row has an 'Info' link. Below the search form, there are controls for 'Show 20 items per page' and 'Skip the first 0 items', followed by a 'Run Query' button. The search results section displays two entries: '2MASS Large Galaxy Atlas' with a 'SIA' link and 'HST WFPC2 Spiral Galaxies' with a 'SIA' link. At the bottom, there is a 'Connect to SAMP hub' button and a footer note: 'Please report errors and problems to the gdc project. Thanks.'

# WIRR's Main Components (II): Search Form

GAVO Data Center Web Interface to the Relational Registry - Mozilla Firefox

RI2Discussion <...> IVOA Registry ... http://d...es.rstx Unnamed data ... GAVO Data Ce...

dc.g-vo.org/wirr/q/ui

## Web Interface to the Relational Registry

Quick Start

Help

Fill form for...

Image Services

Spectral Services

TAP Services

ObsTAP Services

Radio Resources

IR Resources

UV Resources

Query history

Please report errors and problems to the [site operators](#). Thanks.

Text Fields: match spiral

Service Capability: is Image Access

Show 20 items per page

Skip the first 0 items

Run Query

▶ 2MASS Large Galaxy Atlas [SIA](#)

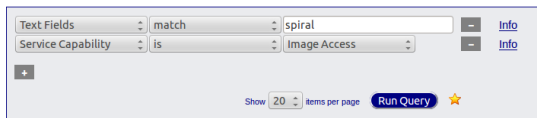
▶ HST WFPC2 Spiral Galaxies [SIA](#)

Connect to SAMP hub



# WIRR's Main Components (II): Search Form

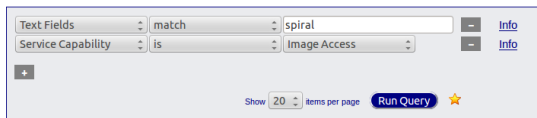
- the heart of our web interface is a search form that...
  - ▶ offers a list of search criteria, e.g.
    - ★ waveband
    - ★ service type (SCS, SIA, SSA, TAP, web services)
    - ★ subject
    - ★ creator
    - ★ UCD
    - ★ ivoid



The screenshot shows a search form with two rows of criteria. The first row has a dropdown menu labeled 'Text Fields' with 'match' selected, a text input field containing 'spiral', a minus sign button, and an 'Info' link. The second row has a dropdown menu labeled 'Service Capability' with 'is' selected, a dropdown menu with 'Image Access' selected, a minus sign button, and an 'Info' link. Below these rows is a plus sign button. At the bottom of the form, there is a 'Show' label, a dropdown menu with '20' selected, the text 'items per page', a blue 'Run Query' button, and a yellow star icon.

# WIRR's Main Components (II): Search Form

- the heart of our web interface is a search form that...
  - ▶ offers a list of search criteria, e.g.
    - ★ waveband
    - ★ service type (SCS, SIA, SSA, TAP, web services)
    - ★ subject
    - ★ creator
    - ★ UCD
    - ★ ivoid



The screenshot shows a search form with two rows of criteria. The first row has a dropdown menu set to 'Text Fields', a dropdown menu set to 'match', a text input field containing 'spiral', a minus sign button, and an 'Info' link. The second row has a dropdown menu set to 'Service Capability', a dropdown menu set to 'is', a dropdown menu set to 'Image Access', a minus sign button, and an 'Info' link. Below the criteria is a plus sign button. At the bottom, there is a 'Show 20 items per page' label, a 'Run Query' button, and a star icon.

- ▶ lets you combine several search criteria in an additive way
  - ★ `<field1> is/is not <operand1> AND`  
`... <fieldN> is/is not <operandN>`
- a click on **Run Query** sends your query to the database

# WIRR's Main Components (III): Result List Box

The screenshot displays the GAVO Data Center Web Interface in a Mozilla Firefox browser. The page title is "Web Interface to the Relational Registry". The search criteria are: Text Fields: match, spiral; Service Capability: is, Image Access. The results list shows two entries: "2MASS Large Galaxy Atlas" and "HST WFPC2 Spiral Galaxies", both with "SIA" status and user avatars. A black arrow points to the "TAP Services" link in the left sidebar.

**Web Interface to the Relational Registry**

Text Fields: match spiral  
Service Capability: is Image Access

Fill form for...  
Image Services  
Spectral Energy Distributions  
TAP Services  
ObsTAP Services  
Radio Resources  
IR Resources  
UV Resources

Query history

2MASS Large Galaxy Atlas SIA  
HST WFPC2 Spiral Galaxies SIA

Connect to SAMP hub

# WIRR's Main Components (III): Result List Box

- contains alphabetically ordered list of resources as returned by the relational registry
- list has a tabular structure:
  - ▶ resource title
  - ▶ services linked to the resource
  - ▶ contact information (name, email, phone number, ...)

▶ 2MASS Large Galaxy Atlas [SIA](#)



▶ HST WFPC2 Spiral Galaxies [SIA](#)



- a click on the arrow in front of each row provides detail information about a resource:
  - ▶ resource description
  - ▶ last update
  - ▶ ivoid
  - ▶ source (ADS link if bibcode available)

# WIRR's Main Components (IV): Interoperability

- button for connecting WIRR to other VO applications

The screenshot displays the 'Web Interface to the Relational Registry' in a Mozilla Firefox browser. The page title is 'GAVO Data Center Web interface to the Relational Registry - Mozilla Firefox'. The browser address bar shows 'dc.gvo.org/wirr/q/4'. The interface includes a sidebar with 'GAVO' logo, 'Quick Start', 'Help', and 'Fill form for...' section. The main content area has search filters: 'Text Fields' set to 'match' and 'Service Capability' set to 'is'. Below the filters is a 'Run Query' button. The search results section shows two entries: '2MASS Large Galaxy Atlas' and 'HST WFPC2 Spiral Galaxies', each with a 'SIA' link and a user icon. At the bottom of the results area, there is a blue button labeled 'Connect to SAMP hub', which is highlighted by a black arrow.

# WIRR's Main Components (IV): Interoperability

- button for connecting WIRR to other VO applications



The screenshot shows the GAVO Data Center Web Interface to the Relational Registry. The browser address bar shows the URL <http://dc.gvo.org/wirr/q/td>. The page title is "Web Interface to the Relational Registry". The interface includes a search form with the following fields: "Text Fields" set to "match", "Service Capability" set to "is", and a search term "spiral". Below the search form, there are two search results: "2MASS Large Galaxy Atlas" and "HST WFPC2 Spiral Galaxies". At the bottom of the page, there is a blue button labeled "Connect to SAMP hub" with a black arrow pointing to it.

➡ before you click the SAMP hub button, make sure that at least one SAMP-capable application is running on your desktop

# WIRR's Main Components (IV): Interoperability

- after the successful registration of WIRR at the SAMP hub, the **Connect to SAMP hub** button will be replaced by a list of **Send resources** buttons
  - ▶ list is grouped by service types

Send to VO-Client(s): **Tabular services** **Image services** **Spectral services** **TAP (SQL) services**

- ➔ clicking on a button will send a list of resources – according to the service type selected – to all connected VO applications

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# Demo



# Conclusion

- alpha version of our web interface available at <http://dc.g-vo.org/WIRR> (and also listed at <http://www.ivoa.net/astromers/applications.html>)
- interface allows for browsing the relational registry to retrieve data collections and services in the VO
- interface is capable to interoperate with other VO applications by using SAMP

➔ we are very grateful for any kind of feedback, comments and reviews!

# Thank You!



GAVO Data Center, <http://dc.zah.uni-heidelberg.de/>.



Web Interface to the Relational Registry,

<http://dc.zah.uni-heidelberg.de/wirr/q/ui/fixed>

or <http://dc.g-vo.org/WIRR>.



IVOA Registry Relational Schema 1.0, IVOA Proposed Recommendation, 2014-02-27, <http://www.ivoa.net/documents/RegTAP/>.

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# Backup

# X-Ray Fluxes and Proper Motions

- find data sets that...
  - ▶ contain x-ray fluxes
  - ▶ contain proper motions

The screenshot shows a query builder interface with two rows of criteria:

- Row 1: Column UCD (dropdown), like (operator dropdown), phot.flux;em.X-ray (text input), minus button, Info link.
- Row 2: Column UCD (dropdown), like (operator dropdown), pos.pm (text input), minus button, Info link.

Below the criteria is a plus button (+) to add more conditions. At the bottom, there is a "Query History" button with left and right arrows, and a "Run Query" button with a star icon. The interface also includes pagination controls: "Items displayed per page: 20" and "Offset: 0 items".

# X-Ray Fluxes and Proper Motions

```
SELECT a.ivooid, a.res_title, a.res_description, a.source_value,
       array_agg(standard_id) AS capids,
       array_agg(access_url) AS urls,
       array_agg(intf_type) AS intf_type,
       to_char(updated, 'YYYY-MM-DD') AS lastupdate, relations
FROM (
  SELECT array_agg(relationship_type) AS relations, res.*
  FROM rr.resource AS res
  NATURAL LEFT OUTER JOIN rr.relationship
  GROUP BY res.ivooid
) AS a
NATURAL LEFT OUTER JOIN rr.capability AS b
NATURAL LEFT OUTER JOIN rr.interface
  WHERE (EXISTS( SELECT name FROM rr.table_column AS tcol
  WHERE a.ivooid=tcol.ivooid AND ucd ILIKE '%phot.flux;em.ray%'))
  AND ( EXISTS ( SELECT name FROM rr.table_column AS tcol
  WHERE a.ivooid=tcol.ivooid AND ucd ILIKE '%pos.pm%'))
)
GROUP BY a.ivooid, a.res_title, a.res_description, a.source_value,
         a.updated, a.relations
ORDER BY a.res_title
LIMIT 20 OFFSET 0
```

# Quasars, Catalogue Services, Redshifts and Photometry

- find quasar data sets that...
  - ▶ are accessible by a catalogue service
  - ▶ have a column which contains redshifts
  - ▶ have a column which contains a photometric magnitude in the V band

Text Fields	match	quasar	-	<a href="#">Info</a>
Service Capability	is	Cone Search	-	<a href="#">Info</a>
Column UCD	like	src.redshift	-	<a href="#">Info</a>
Column UCD	like	phot.mag;em.opt.V	-	<a href="#">Info</a>

**+**

Show  items per page

Skip the first  items

**Run Query** ★