Get to know the VO

If you have worked with Gaia data (to mention just one), you have already used the VO. Just possibly not very efficiently.

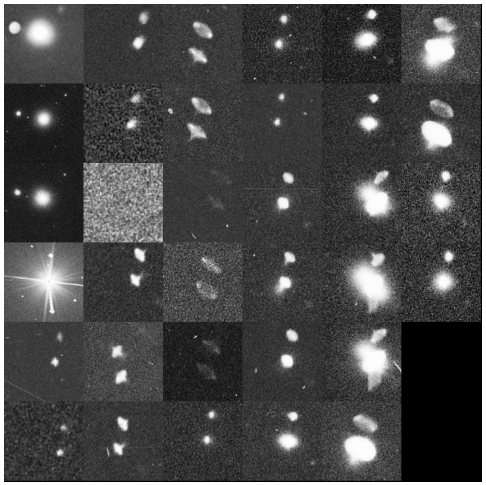
To learn the VO basics, have a look at the worked-out use cases at the VO Text Treasures,

https://dc.g-vo.org/VOTT,

perhaps starting with "Adding catalog data to object lists using the VO",

https://g-vo.org/tutorials/add-pms.pdf.

But the VO is not only about catalogues; with a few lines of code, you can, for instance, produce montages of cutouts done remotely like this:



– which works the same way on *any* service supporting the IVOA's SODA protocol.

Learning curve too steep?

GAVO does house calls, too!

Just ask us about a VO day at your institute. We will visit you and hold a block course on VO basics (one day) or go all the way to advanced topics like complex database queries using ADQL or embedding the VO into your Python programs with pyVO (several days).

Contribute

Do you have astronomical data that is not yet published in the VO? By the way: it is if it is on VizieR or in ESO's archives, for instance. Note, however, that it is probably useful to put data into the VO even if its progenitors (the "raw data") are already in the VO.

To get your data into the VO, talk to us. We operate fully VO-integrated data centres publishing images, spectra, catalogues, time series, simulation results or, really, any sort of data related to astronomy to the VO. And we can lend a hand if you want to build your own data centre.

The gratitude of the people who want to reuse your data in the future will be all yours!

Follow the VO

We keep a blog on things VO-related at

https://blog.g-vo.org.

Do not be discouraged if there is a nerdy article on database configuration or boring updates of our VO server suite DaCHS in there – there are also regularly articles on interesting things to do in TOPCAT or cool tricks in ADQL, the nearest thing to *interoperable* code-to-the data there is on this planet.

To learn of new resources in the VO as they become available, there is our VO Fresh RSS at

http://dc.g-vo.org/regrss.

If you are still using proprietary services, this content is also available through @germanVO on Twitter.

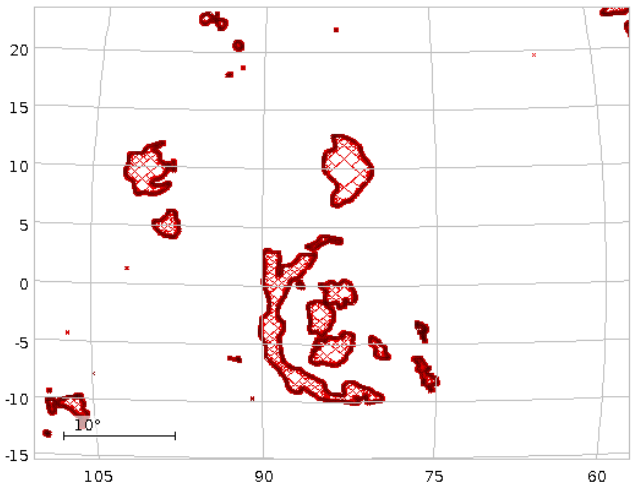
Don't miss the puzzler

At the AG-Tagung, we always have a puzzler, a small astronomy-related problem solvable with a few smart VO moves. Solve it and you can win our beautiful astronomy-themed towel. Get the problem sheet at our booth – and also find a computer there with nifty software on it making the solution a snap. Not to mention there may be hints...

Interoperability

At the root of most of our activities is the idea that data services should be interoperable. This, very simply put, means that if you have written a program for data from telescope X, it will also work for data from telescope Y. This includes the means for discovering and downloading the data sets as well as for processing them. Which means that we try to have at least alternatives to per-project web pages, alternatives which can be operated by machines, too.

This means that when you have a query that looks for spectra of your favourite object on 2022-09-15 in the infrared on one service, it is (usually) just two extra lines to have the computer run that query on every spectral service there is in the VO.



MOCs (here: NGC objects plotted by TOPCAT) are a great way to interoperably represent crazy shapes.

Contact us

To reach GAVO, send mail to contact@g-vo.org or call us at ++49 6221 7273 288. You can also drop by our IRC channel #gavo on the libera.chat network. Or try the mumble server at telco.g-vo.org.

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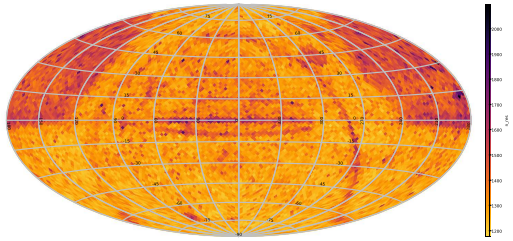
GAVO works in close cooperation with the NFDI project PUNCH4NFDI, which establishes (among other things) interoperable data infrastructures in the wider field of fundamental physics.

PUNCH 4NFDI

https://www.g-vo.org

What are GAVO & IVOA?

GAVO, the German Astrophysical Virtual Observatory, is the German contribution to the International Virtual Observatory Association. Its mission thus is to contribute to operating and evolving a global infrastructure for finding, retrieving, and analysing astronomical data, the resources of which are distributed like this on the sky:



With tools like TOPCAT, Aladin, or the astropy affiliated package pyVO, the Virtual Observatory (VO) offers a homogeneous view on the better part of the astronomical resources of the world, from large data centres like VizieR or IRSA to medium-sized operations like GAVO's Heidelberg data centre to single-resource services operated by a research group like (possibly) yours.

You can search for all these resources in the Registry, uniformly figure out their metadata, and then operate them through a single interface.