NRC·CNRC

Navigating the `s_region` in `ObsCore`

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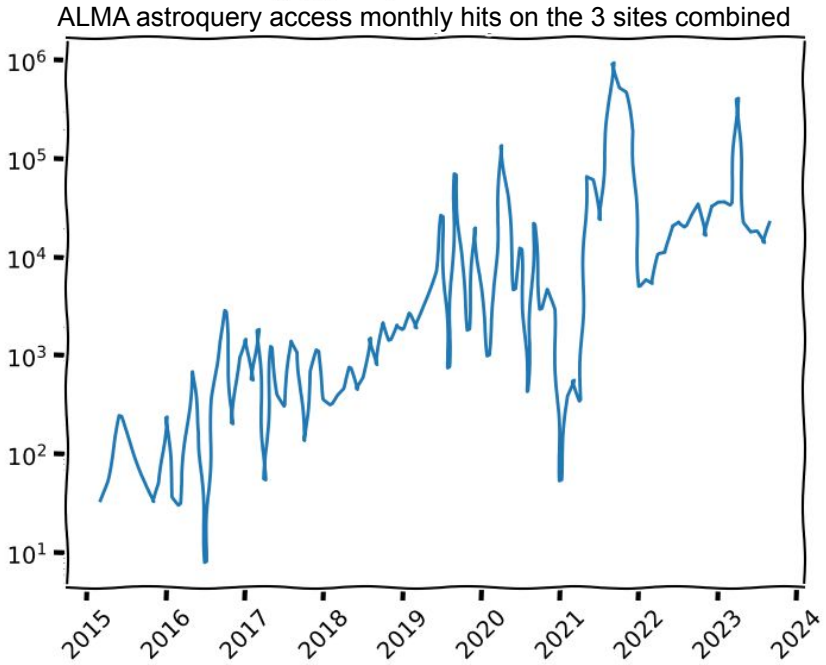
Outline

- `astroquery.alma` package
- `s_region` feature request
- navigating the IVOA specs
- takeaways

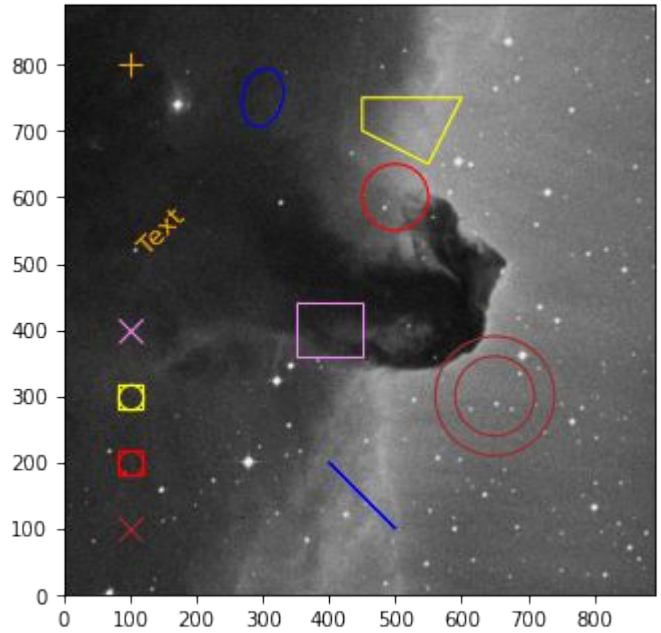
`astroquery.alma`

- Module that interfaces with ALMA IVOA services: **`SIAv2`**, **`TAP`**, **`DataLink`**, **`SODA`**
- It uses **`PyVO`** and works with ALMA authentication system
- Very popular with users
- User new features requests: **`Quantities`**, **`astropy.regions`**



`s_region` Feature Request

- Return `regions` objects instead of string for `s_region`
- What is the `regions` package:
  - Region Shapes
  - Region Metadata
  - Checking for Points Inside Regions
  - Combining Regions
  - Computing Overlap Masks
  - Plotting Regions with Matplotlib
  - Reading/Writing Region Files

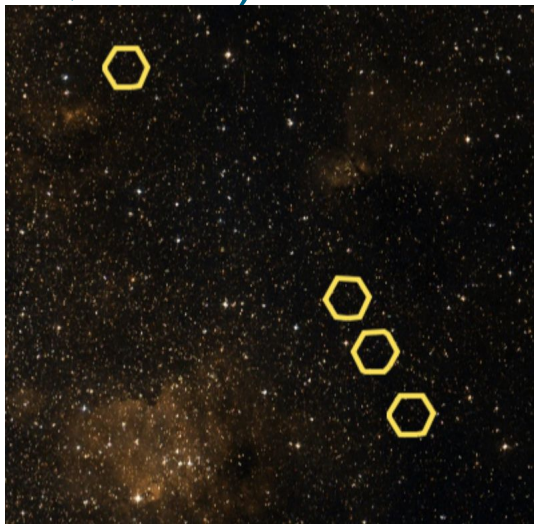


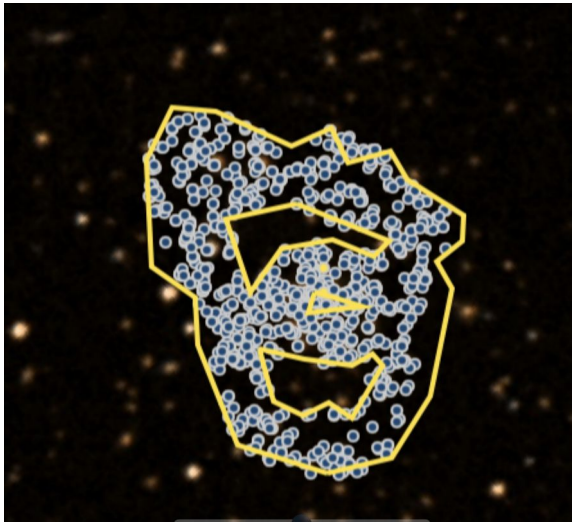
Navigating the IVOA Specs

- Current format for `s_region` is `STC-S` according to `ObsCore 1.1`
- `STC-S` is not an endorsed IVOA recommandation
- New xtypes are being defined in future `DALI1.2` *but* are not finalized yet
- `ObsCore` also needs to be updated to re-define `s_region`

Navigating the IVOA Specs (Cont)

- Support for compound/complex `STC-S` shapes (UNION, NOT)





Takeaways

- `s_region` where? How fast? MOC?
- End users take the shortest route
- End users look for (astropy) well known components: `Quantities, SkyCoord, Regions`, others?
- Standardization is great but tricky
- Mistakes/bugs (`STC-S`) should be prioritized
- Shorter feedback loop for standards ([semi]formal methods + AI?)

Thank you

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