



Standing Committee for Science Priorities (CSP) status

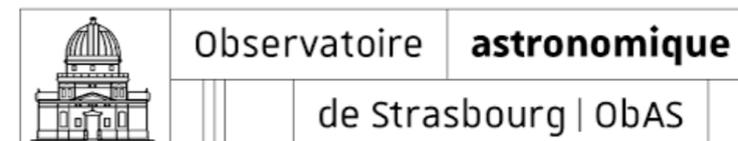
Interop meeting 08-12 May 2023

Ada Nebot for the CSP

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CENTRE DE DONNÉES
ASTRONOMIQUES DE STRASBOURG



□ The CSP of the IVOA: who?

Who is the CSP?

- Members of the science community and active astronomy projects.

Members

- Members: Mark Allen, Christophe Arviset, Chenzhou Cui, Raffaele D'Abrusco, Vandana Desai, Gregory Dubois-Felsmann, Janet Evans, Pepi Fabbiano, Mark Lacy, Marco Molinaro, Kai Lars Polsterer, Enrique Solano
- Chairs: Ada Nebot (chair) & Francesca Civano (vice-chair)

<http://ivoa.net/twiki/bin/view/IVOA/IvoaSciencePriorities>

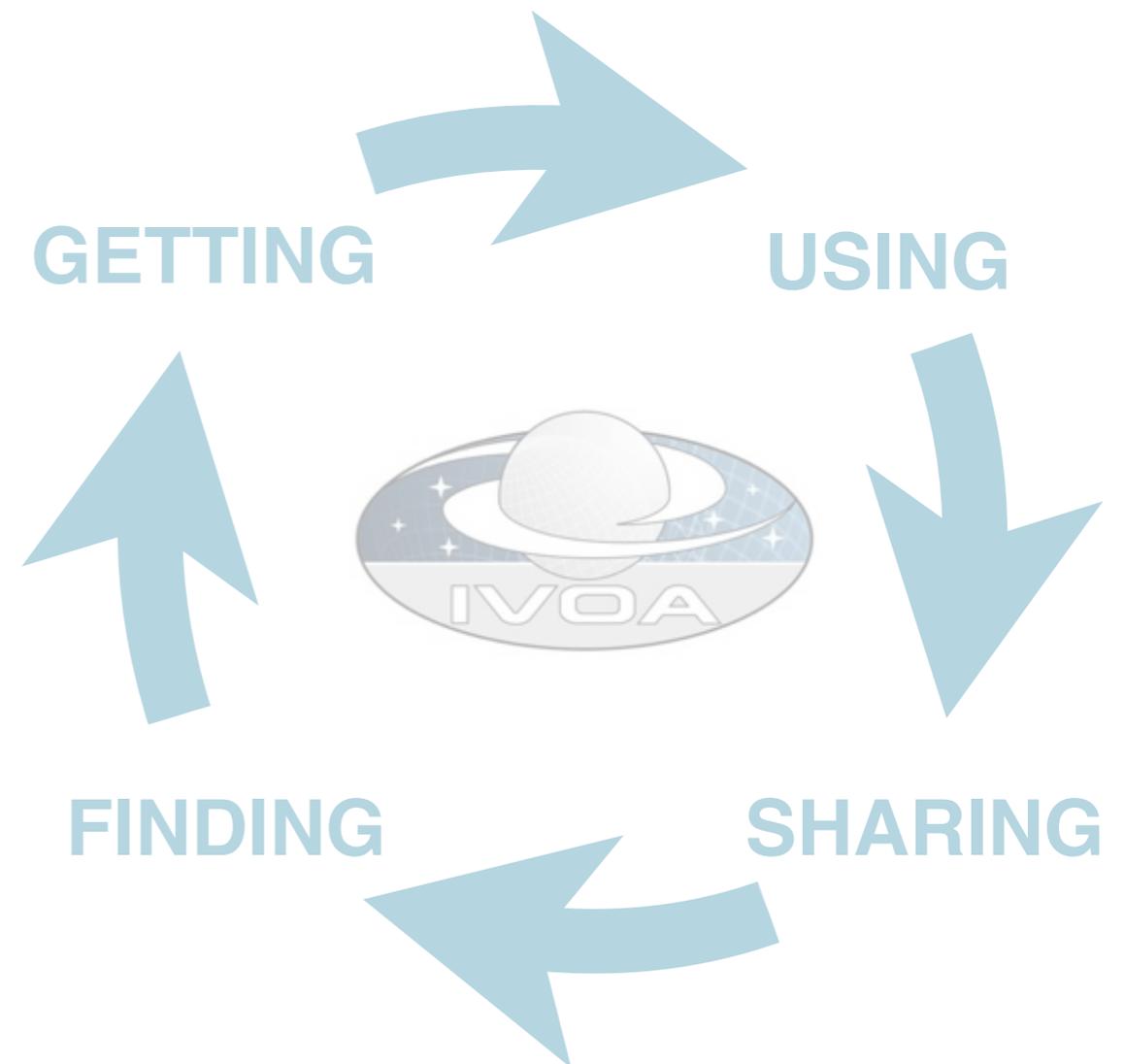
□ The CSP of the IVOA: what?

What is the goal of the CSP?

- Sustain the scientific impact of the VO as an interoperable ecosystem to support science
- Ensure continuous engagement of the international astronomical community

Astronomy community

- The astronomy community comprises missions that are active or under development, operating observatories, astronomical archives, and teams of astronomers performing research and disseminating data products to the community.

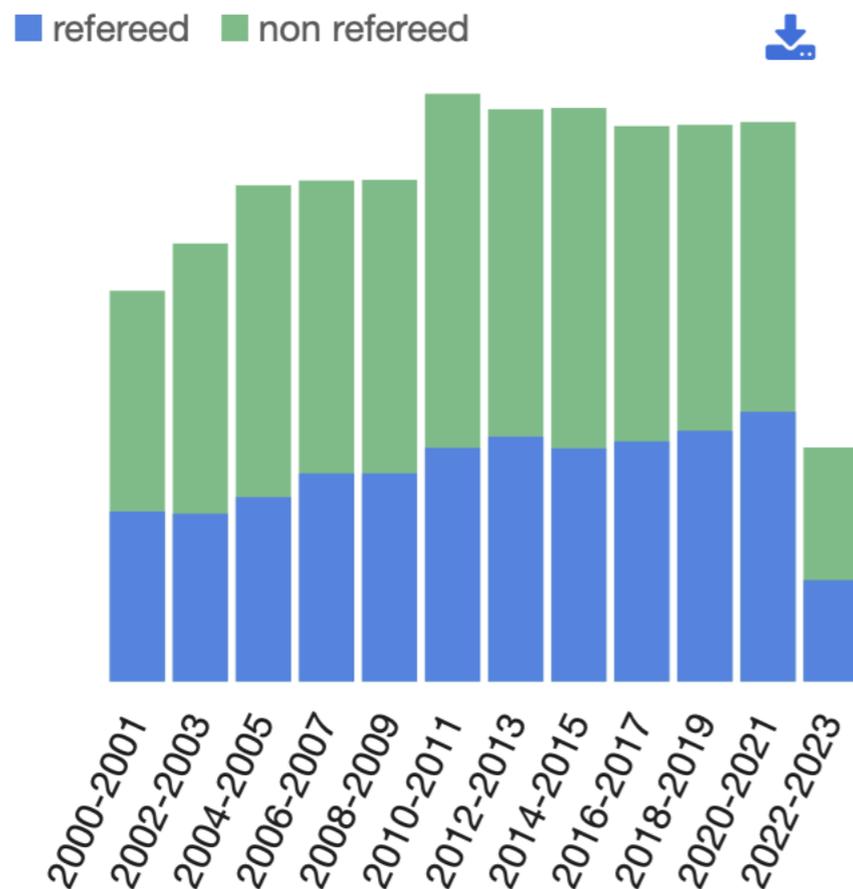


□ The CSP of the IVOA: why?

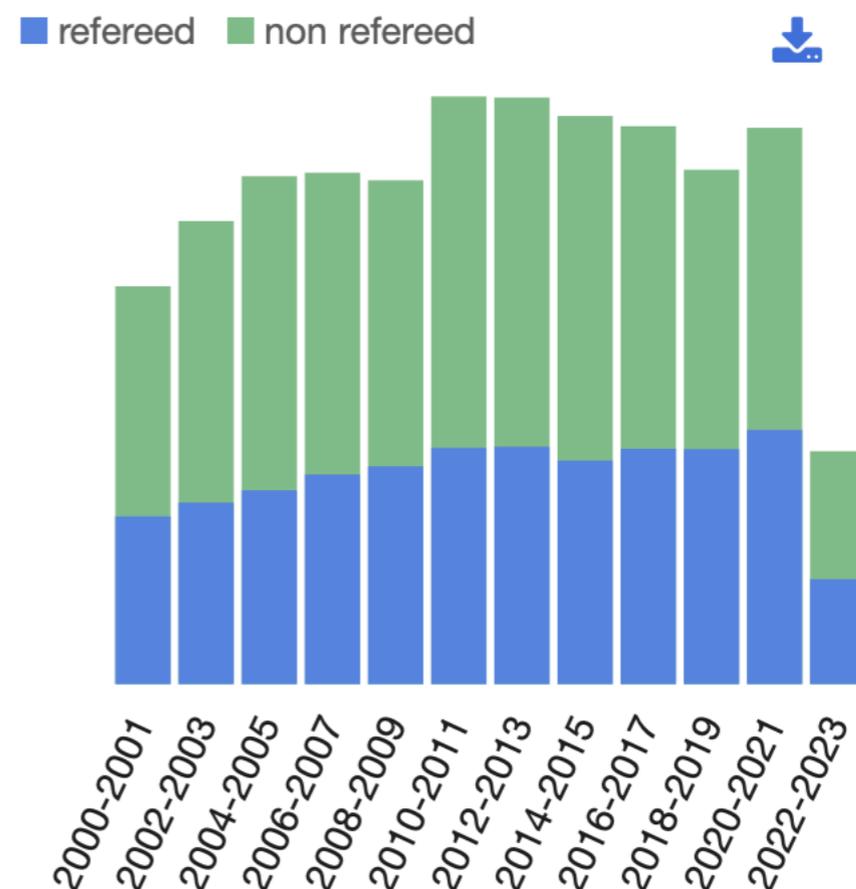
Clear benefits

- Growth in the scientific return of data
- Capability to discover and fuse multiple data sets
- Application of the VO in planning new observations and observing strategies

Multi-wavelength



Images & spectra



□ The CSP of the IVOA: how?

Recommend scientific priorities and scientific requirements

- Driven by scientific use cases that are developed in cooperation with the scientific community.
- Will drive the development of new protocols which will be developed by the IVOA and coordinated by the TCG



➔ Identify and transmit the needs of the community

□ The CSP of the IVOA: where and when?

A world wide continuous effort

- Encourages engagement, adoption and feedback of implementations of the international astronomical community
- Support VO members in developing tutorials, technical and scientific workshops and scientific training materials.



□ CSP important considerations

- Identify the current main science cases in the community
- Engage with large and small projects
- Ensure IVOA is building standards, tools and services responding to these science cases
- Ensure right balance for these standards
 - Not too generic, not too specific
 - Implementable standards, while not too simplistic
 - Need for new standards, or updating existing standards
 - Addressing new data types, new areas in astronomy

□ Accomplishments

- Some accomplishments over the last semester:
 - Initiated coordination of the Interop Science Platform plenaries given community interest
 - Response to a request for enhancements with regard to the spectrum DM - the WG is working on it
 - Early discussions on a High Energy Interest Group

□ CSP outlook

- **Next generation missions coming up** - which are needed upgrades to protocols to keep up with the needs?
 - Different data types >> **Data cubes** >> **Spectra** >> **Time-series**
 - Are we ready for the exploration, visualisation and analysis?
 - e.g. finding light curves → **Registry session!**
 - Transient phenomena **alert** distribution is evolving, implications? → **Radio IG session!**
 - Can VO protocols & formats help **ML and AI algorithms**?
 - **ChatGPT - AIGC - LLM** → **KDIG session!**
 - What is the role of **the VO in the Cloud & Science Platforms**?
 - **Interoperability of science platforms?**
 - Reproducibility & reusability? Role of the **provenance data model in this context? Sharing code? Role of the “Execution planner”?**
 - **Extend usage of datalink and HiPS**
→ **Check the two plenary sessions on the topic!**
 - Digital Object Identifiers in Open Science → **Check the plenary session!**

□ Science Platforms

- 2 sessions (1h presentations + 30 min discussion)
- The theme of these sessions will be to explore the state of the art for science platforms in astronomy, and to understand what the IVOA can do to support the development of the next generation of services needed to handle the increasing volumes of data available in the future.
- The participants are asked to reference three key questions about the IVOA's role:
 - What things from the IVOA worked ?
 - What things from the IVOA didn't work ?
 - What does the IVOA need to do next ?

<https://wiki.ivoa.net/twiki/bin/view/IVOA/InterOpMay2023SciencePlatforms>

□ Thanks!

- **Can only be achieved with community engagement —> We need you**

Looking forward to a productive meeting!