

IVOA Committee on Science priorities meeting #10

12 September 2017, 4 – 5 pm CEST, via Webex

At the call: Brian Glendenning [BG], Mark Allen [MA], Matthew Graham [MG], Pepi Fabbiano [PF], Kai Polsterer [KP], Bruno Merin [BM]

1.- Welcome

2.- Round of introductions

BM: optical (VLT, WHT), mid-IR (Spitzer) and far-IR (Herschel) studies of star and planet formation, protoplanetary disks and recently also exoplanets (TPF). Astronomy archives science lead at the ESAC Science Data Centre from ESA in Madrid.

MA: Most CSP activity has taken place at or close to interops in the past. Background in optical IR and radio astronomy. HST. Director of CDS and IVOA vice-chair. More managerial work now. Lots of activities for this group.

PF : current IVOA chair. The CSP is an important committee as a progress checkpoint and as input from the community. X-ray astronomer but also multi-wavelength. I study mostly X-ray binaries and galaxy evolution with Chandra and other x-ray observatories. Recently I am also studying feedback from nucleosynthesis. Doing management at Data Systems division at Chandra (Data processing, software, archive and tools for the users.). Our interest in the VO is for interoperability among others. We are doing the Chandra Catalog, which we hope will stimulate a lot of scientific activities. Also involved recently in the discussions with the United Nations, who suggest an IVOA centralized point of contact or portal.

BG: Currently in charge of data management and software for NRAO (VLA and ALMA). Previously s/w for ALMA, including the requirement gathering for the first ALMA s/w. Involved in a number of committees in NRAO and other scientific forums. This is my first real contact with the committee.

KP: Intersection between data and science. I am doing data science at Heidelberg. We are mostly interested in enabling the science within the VO, not so much using the VO to discover the data.

MG: Research professor at CalTech. Project Scientist for the Zwicky Transient Factory, which is 10 % LSST in scope. Lots of time-domain, AGN variability, machine learning, TCG chair for IVOA.

Pat: Lead architect at the CADC, vice-chair of the TCG.

3.- Review of the group's Terms of Reference

Not done.

4.- Round of views on the goals of the group

BM: Goals :

- 1) interact with science community
- 2) sell the IVOA
- 3) ideate a portal

BG: Priorities:

- 1) interact with science community
- 2) take note of progress of IVOA wrt to its priorities, i.e. the multi-wavelength progress could have been better, preparation for LSST is also critical.. figure out technical impediments to big projects taking up IVOA standards and protocols to fix them is possible.

MG: I would argue against letting big projects leading development because there are many such big projects and not necessarily they will be looking for generally applicable solutions.

BG: I believe that if e.g. LSST would develop something completely away from the VO this would be a failure for the IVOA.

MG: there is history in the VO of large projects influencing too much the progress. It is important to engage with all projects, not just with the big ones.

PF: I agree with both. The idea that the VO has a duty to keep an eye on what the large projects are doing and how they can contribute to our protocols.

MA: the terms of reference were recently revised and pretty much suggesting the idea of promoting the engagement of these projects coming along. So what we are saying matches the terms of reference. This should work ideally in a balanced way. We just need to workout the best way to engage with the currently running astronomy projects, which maybe implies going to their meeting and inviting them to come ours, etc..

MA: Looking ahead there are a couple of large events like the IAU GA and maybe the IVOA should have a booth there to be present.

5.- Review of status of earlier activities

Current activities:

- 1) Development of mutli-dimensional standards
 - a. At the last meeting, the first set of standards were defined
- 2) Development of time-domain
 - a. Progress has not been great, but it is recently reinvigorated with Ada Nebot and other people in the time-domain group so it is the right time now to check status and make recommendations.
- 3) IVOA portal: new idea (discussed in point 7 below)
- 4) "Computing close to the data" is another topic that has recently appeared and should be dealt with.
 - a. We had a focus session about this at Sexten
 - b. MG: There is information in the Grid and Web services about this topic.
 - c. MG: the question is whether there is a need for interoperability for these types of services, if there is, then the IVOA should be involved, but if not, maybe not. IVOA might have a role in the data provision to these systems, or in the orchestration of services such that processes always run close to the original or most optimal sources of the data.

- d. KP: I already had a discussion on possible orchestration of services and the list of the actual services and we have a set of requirements.

6.- Ideas of possible activities prior to Santiago

BM: revise the status of the different priority areas and maybe try to make an estimate of how progress is meeting the projects timelines if possible.

MG: involve ChiVO on that. There is currently an activity by the Chilean Ministry of Science to develop a roadmap for astroinformatics in Chile and most of the ADASS LOC are involved in that to some degree so it is arguable that most astronomy departments might have been solicited already about this in the last months. I would bracket any activity in that context. Mark and I was there a few weeks ago talking to that body indeed.

MA: most of the people one would like to talk to comes to ADASS but probably we should contact them in advance. The IVOA meetings on weekends are certainly not attractive for non-IVOA-related people. I like the idea of trying to evaluate prior to the meetings the status of the different priorities, even if it is challenging. The focus sessions have always been organized in the large meetings where we try to get a lot more participation.

PF: Another idea could be to try to involve them more closely in the CSP? Maybe we can have a Chilean member that is part of those committees?

MG: It might get political and we should make sure to not offend our ChiVO colleagues.

Action on BM: check status of different priority areas with help of experts where needed to be presented at Santiago. Due by: 24 October 2017

Action MG/MA: ask at ChiVO whether a closer interaction with CSP or IVOA might be useful? Date: 24 October 2017

Action BM: ask Mauricio whether someone from the IVOA/CSP could come to some university in Santiago to talk to them about the IVOA. Date: 24 October 2017.

7.- First brainstorming on the idea of an IVOA Portal

BM: one idea is to make the ultimate search engine or the VO that will find all data from any astronomical observatory with sufficient data quality connected to the internet. This is probably overly expensive and out of scope so the second idea, actually proposed by Enrique Solano, is to make a nice webpage that features some scientific success stories that use VO infrastructure and then a comprehensive list of applications, portals, etc..

PF: the idea from the Rome meeting was a webpage where they get data back without having to shop in several portals that do the same service. Maybe we can flush all requests to one of our portals and forward all the results from all the services to that one single place?

KP: having high impact papers that use the VO, I would ask whether there are any high impact papers that do not use the VO.

PF: almost everyone in astronomy uses these tools like topcat so we need to have a page with tools but then highlight the most popular. Many people here at the

CfA use those tools but they just don't know that they have VO inside so maybe we just need more or better advertisement.

MG: we do have a page with the tools in the apps area.

MA: we need to have a recognizable front-door that makes us known to the world.

MG: with lots of data, you might not want to do your data access from a website but programmatically. That is the difference between data exploration and data consumption. Astropy and astroquery are our two main competitors on this.

8.- Any other business

BM we need a mailing list I think. -> MG: ask the IVOA documentalist.

BM: Next meeting will be at Santiago. We will interact via email before then.

9.- Recap of actions:

- 1) **Action on BM:** check status of different priority areas with help of experts where needed to be presented at Santiago. Due by:
- 2) **Action MG/MA:** ask at ChiVO whether a closer interaction with CSP or IVOA might be useful? Due by: 24 October 2017
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