

ROUND TABLE DISCUSSION OF THE SESSION: “SPECTROSCOPIC ALGORITHMS AND TOOLS”

Moderators: T.Budavari & P.Osuna

Introduction: Many talks have shown nice successes with the VO. We should concentrate now on issues: Are VO applications capable of doing what you need? Are the functionalities enough in terms of data reduction? Fitting? What would you need more?

Piskunov: VO applications presented in some of the talks so far seems to be trying to compete with software packages, on which astronomers have been working for decades. Is this indeed a useful exercise? Wouldn't it be more efficient to make an inventory in the community of what is available, and create “wrappers” to make them integrated in the VO? There is lots of science in already existing tools. I would also advocate for the need to support both the interactive (desktop) and the batch (scripting) working mode. However, interactive analysis needs to be able recall what was done, and to allow users to repeat it.

Osuna: It is not our intention as VO developers to “compete” with previous tools. Our goal is easing access to resources. What we are trying to do is to define protocols, which allow specialists to port their tools into the VO

Tedds: There has been a European call to support people who want to port tools or survey data into the VO. This has been successful. If we can identify science cases which may be of general interest, other tool developers may be encouraged to do the same.

Skoda: One has to be careful, though. Many tools were developed for a very specific purpose, and therefore are very limited in scope. It is more important that VO learns the expertise from the astronomers. We cannot rely on the fact that astronomers will learn how to port their specific tools in the VO.

Prugniel: VO will need to support the “astronomers programming in FORTRAN”.

Genova: We need to provide support for teams who wants to put resources on porting their tools into the VO. We need therefore to make a census of who is willing to do it. The added value the VO can provide is the construction of complex workflows. Nonetheless, we need legacy tools, which can be useful for 70% of the scientists. In this context, the role of large survey teams may

be important in collecting people with expertise.

Tody: The fact that many VO applications are being written in Java has been mentioned as a possible obstacle to the porting of legacy applications in the VO. However, we should not be misled: Java is often mentioned in the VO context is because we often talk of its infrastructure. Multiple languages can be still supported. Therefore, the idea is not to re-write all the legacy software in Java or whatever is fashionable afterwards.

Lennon: A fundamental requirement for VO applications being useful for the average astronomers is allowing that data can be outputted in a controlled and customized format. Where are we in this field?

Tody: From the point of view of formats, there is a wide choice: VOT, FITS, CSV ...

Richards: The full power of a complex language such as ADQL is potentially available ...

Genova: ... but the IVOA mandate is that nobody should be forced to learn SQL, if one does not want to. There is a huge efforts in the IVOA on the semantics - our controlled vocabulary. The list of words is continuously evolving and open to contributions by the community.

Del Zanna: There has been a lot of development in solar astronomy in the UK, and the local community is very keen to use VO tools. The main issue is how to interface the VO with existing tools. People have been looking forward to wrapping IDL routines.

Osuna: It would be difficult to have IDL codes imported directly into the VO, because it is a package with a proprietary license. However, wrapping IDL functions in the VO should be no problem.

Tedds: TAVERNA would have the advantage that one could call whatever command-line languages. This would allow people to call IDL routine from VO workflows.

Genova: An interface to IDL is available in the last version of Aladin.

Tody: There are a dozen of solutions, that allow running any tools in any languages from the VO infrastructures.

We need to take as a requirements in the VO that astronomers shall be allowed to provide an interface to run the tools they have already available.

Skoda: Are we hitting the right target? There are efforts in the astronomical environment to remove IDL. Python or GNU-IDL are potential alternatives.

Nickelt: IDL is optimized for handling large vector fields, GNU-IDL will eventually achieve the same capabilities, but it is not there yet. It is already possible to distribute any IDL codes as binary, provided that it cannot be changed by the final user.