Report ESO UC Poll 2020 for Spain (A13)

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1 Presentation

A total of 49 scientists in Spanish institutions (1249) answered the ESO UC Poll 2020, divided into 25 Professor/Research staff, 8 non-permanent research staff, 14 post-docs, 1 PhD student and 1 classified as "Other". They represent 7.78% of the 630 answers received for the Poll 2020. The number of research staff who answered the Poll is twice the number of post-docs, when post-docs tend to be more numerous than staff in Spanish institutions. It is quite disappointing to see the lack of interests of PhD students.

2 OPC

Among the 49 responses, 39 have submitted ESO proposals over the past 2 years (∼85%) while 7/49 did not (∼15%). The most popular instruments were MUSE and ALMA, the former can be explained by the strong extragalactic community. Other instruments like EFOSC2, X-shooter, FORS, HAWK-I, FLAMES, and UVES seem popular too. The opinion on the feedback from the OPC appears fairly neutral with, nonetheless, about 13% of people unsatisfied by the comments received from the OPC. Only 33% of the participants judge that the comments were valuable, which is a small percentage. Among special comments (∼20% of the participants), several people argue that the comments were either useless, or the panel did not have the proper expertise, or lack of scientific value or simply said "good proposal but not scheduled".**As the representative, I am extremely concerned because this also happened to me and I feel that the OPC comments are getting more neutral with lack valuable feedback.**

3 Special topic 2020: Time Domain

The Spanish community does not seem dominated by users of time domain astrophysics: only 9/49 participated in such programmes: 8 in normal programmes, 3 in visitor mode, 1 in monitoring, 4 DDT, 4 ToO, and 1 RRM. Among those, 4 used "coordinated" time domain observations with other telescopes. Only 3 answers were received about the percentage of triggers, which range between 30 and 50%. A wide range of VLT instruments was used, with a preference for FORS, ULTRACAM, and X-shooter. SofI on the NTT is also very popular among users. The percentage of completed triggers lies between 50 and 85%. Six out of 9 users were satisfied about the scheduling, progress of their proposal, and communication with ESO. Similarly 6/9 did not encounter any problem(s) during the observations and 8/9 were satisfied with the data products. The other users did not provide feedback to ESO. One users highlighted that no visible instrument is available for his/her needs but no specific request was exposed. There is a wide range of science that used time domain astronomy, from exoplanets and solar system to stars, to X-ray binaries, supernovae and GRBs. The major request of time-domain Spanish users include planetary transits, possibility to assess the SNR for spectroscopic observations to repeat or accept observations, as well as a fast response or ToO mode. In the future, 11 users plan to keep using time domain astronomy (including 8 whose science requires time-critical decisions for observation execution), while the majority do not (26/49) and 5 did not answer. One user suggests that a support astronomer should be able to generate the OBs for the users because observations are usually straightforward.

4 La Silla Paranal Apex

23/49 (57.5%) users got time as PI or co-Is in the last 4 period, while the rest (17/49) did not. Among those, 17 (74%) worked on the new Phase 1 tool while 6 did not. Two are very unsatisfied with the new Phase 1 while the majority is satisfied or very satisfied (65%). Among the comments of unsatisfied users, the time required to transform the old proposal into the new tool, the inconvenience of the internet connection needed to fill in many parts (it would be better to do copy/paste without a mandatory internet connection), the loss of time preparing tip-tilt stars for AO observations with MUSE, or make specific

decisions that may compromise observations prior to acceptance: all of these imply loss of time for scientists and tax payers when probability of granted time is small. Clearly, the tool needs to be improved in the future as the time spent to prepare a proposal is much longer than before.

15/23 (65%) used the Phase 2 tool while 8 did not. Only one user is dissatisfied and requests more detailed examples of OBs either on webpages or videos. Most users are fine or satisfied the way ESO handles communications about progress of service observations. Only 5/40 (12.5%) users conducted visitor mode observations and all are satisfied or very satisfied. One user mentioned that the trips could be handled in a faster/more efficient way though. No suggestion for improvement was provided by users. No-one used eaveDropping observing mode in the Spanish community.

5 ALMA

Nine (9) users out of 39 (23%) are ALMA users who got time in Cycles 5, 6, or 7 (100% success rate!). The number of dissatisfied (2) people is comparable to satisfied ones (3) while the rest is fine. The two unsatisfied users clearly complain about the comments of the OPC, talking about "poor expertise", "scientifically absurd comments", "vague reports", "members of ALMA TAC lack expertise in the field", "quality of feedback got worse again", and "lottery". These users do not expect that the Dual Anonymous Review system will improve things because they note that conflict of interest clearly affect the outcome of the results although they recognize that the distributed review system has been more informative than the previous system. As the Spanish representative, **I am deeply concerned about those strong wording and ESO should take decision and make sure that the proposals are judged by experts without any scientific conflicts.** Users are generally satisfied with the quality of the data provided. One user mentions that "The result is uneven. It depends a lot on the ARC node and possibly also on the person in charge of performing the data reduction. In some cases there have been major failures in basic aspects, which should have been detected in the quality controls." One-third of the users (3/9) had to improve the data reduction of the ALMA pipeline. **I find all of these a worry.** The specific comments from expert users are: (1) provision of fully calibrated of UV data on the science target is absolutely mandatory for improving science from the archive; (2) self-calibration has to be applied (when this is possible) to improve the results, as it has not been applied to the data delivered. But in some specific cases there have been major failures in basic aspects, which should have been detected in the quality controls; (3) self-calibration does not work properly in CASA. It produces only a small improvement of image quality as compared with AIPS. This problem is important and it has not been addressed yet. There are issues with the calibrated ALMA data with incompatibilities of CASA versions but it has not been judged as a standard service by ESO. None of the ALMA users have traveled to an ALMA ARC node for a face-to-face meeting.

6 Data reduction

About half of users have used reduced data by ESO: 22/38 (∼58%), while the other users use IRAF, PAMELA and eclipse to reduce data. Only two users are unsatisfied and only two are very satisfied while the rest is satisfied or Ok (∼75%). Several comments are provided about **negative experiences with ESO pipelines**: problems with X-shooter pipeline not working on Linux desktop and should be improved, UVES useless for extended sources, struggle to find a cookbook for MUSE which should be adapted for beginners and not only experts, and an "ESO data reduction ecosystem unnecessary intricate". One user is asking ESO to give more resources to the development and improvement of pipelines. Additional calibration steps are requested by users, including (1) tips for tilt correction in 2D extraction mode with UVES, (2) clear and easy use of software for telluric correction of NIR spectra **(currently unsatisfactory)**, (3) **absolute flux calibration**, and (4) **quality flag for archival data**. Two-thirds of users (14/22) contacted the help-desk to solve their issues and all 14 users found the interaction useful or very useful, which is extremely positive.

7 Data Retrieval

A significant number of users retrieved data from the ESO science archive facility ($29/37 \sim 78\%$), mainly through SAF and ALMA archive for their own data or other projects (about 50/50 in both cases). The level of satisfaction is at least "Ok" and usually good or very good for most users of SAF and ALMA archives. The following **important suggestions are made by users**: (1) provide calibrated UV data sets for ALMA science targets independently of raw and product data, (2) request for proprietary period that should be the same when data from different configurations are required to complete a given project. (3) The PI should have access to the ALMA data as they are obtained, without having to wait for all the observations to be completed in the cases where more than one observation session is required.

Less users have used the Phase 3 facility, only 15 out of 37 ($\sim$30%), all being satisfied or very satisfied. One suggestion to improve the service is to provide a list of calibration files in addition to the log.

8 Miscellaneous

Most users either use Mac (23/49) or Linux (22/49) or Unix (2/49) and only two use windows as operating systems for ESO tools.

People tend to read the ESO press releases (9 always, 22 sometimes, 1 never), Science Newsletter (10 always, 20 sometimes, 7 never)), ESO messenger (11 always, 18 sometimes, 8 never), and ALMA Newsletter (5 always, 11 sometimes, 21 never). Only 3/37 users from Spanish institutions issued an ESO press release, which is low although I have no objective comparison with other countries.

Ten out 28 users have concerns or strong concerns about the new distributed review system and many comments have been provided by several users. To summarise, **users generally support the new system but emit strong doubts about PhD student and young researchers evaluating proposals and the distribution of proposals to competing team even though the names of PI is hidden.** People acknowledge that refereeing of ESO proposal has become a burden and it is best to distribute less proposals to referees. There is a proposal for a mixed approach for ESO peer review that should be considered.