Questions, Comments and Answers following the presentation

X-shooter: the first of the VLT second generation instruments

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Deustua:

1. *What are the statistical probabilities of failures in the reduction pipeline?*
2. *What was the difference between your process and the calSelector process?*

1. Currently, 100% for data obtained after April 2015 for the cases that the user followed the default setup ESO suggests. The phase3 science archive products are also 100% affected since that date.
2. The artefacts result from the used master response curve. If one does not use this, but processes the standard star taken on the same night, the result is fine.

Modigliani:

1. *Concerning the IFU: A French group, after 8 years of X-shooter operation has published results. They claim better than what the pipeline gives. Maybe we could contact them to get info and start later a project to improve the pipeline quality. However, when they had to deliver ESO the reduction for this mode, which they didn't, so that ESO had to implement the current pipeline reduction of IFU data in 3 weeks. Their method requires extra STD star observations to calibrate the IFU slice position. This method cannot be adapted for automatic pipeline reduction as it requires user interaction.*
2. *Additional question concerning the VIS high read out noise: Have you looked into the causes, like possible correlation with [other parameters], other calibrations, in order to decrease the frequency of occurrence of this problem?*

1. This group has published the two papers I mentioned. They are the only ones that were able to retrieve any spatial information from the IFU data. They have also offered me to help to improve the ESO pipeline.
2. The causes appear to be always cabling or grounding, but no long-term fix has been found.

Sterzik: Congratulations to find issuess with X-shooter data!

1. *Can the standard star observations of Be etc... stars be used for scientific analysis?*
2. *Optimization of science grade data products is an iterative process. Would you agree with this statement? What do you sugges to improve the process of generating and resolving the issue with a poor master response/calibration?*

1. Yes, the user reporting the percentage of Be stars for our telluric standard stars was actually using this data set to search for unkown Be stars.
2. I agree with the statement that the delivery is an iterative process. However, if we fill the phase3 archive for more than one year with badly reduced data (and very obviously so), then something does not work. The case with the master response curve is especially

troublesome, because we had a similar issue with master calibrations creating artefacts in the final products only one year ago. Simply looking at some of the reduced data by eye would have been enough to catch the latest issue with the master response. The usage of master calibrations is dangerous and if kept, more careful analysis of their validity needs to be done.

Hanuschik: *Comment on the issue with the response curve. The QC group has a process to check the quality of science-grade data products. But in this case, it was overlooked because the QC parameters were not sensitive enough. We have improved them in the meantime and will soon reprocess the affected science data.*

Osip:

1. *For detector offset pixel, what actually moved?*
2. *Is the response to higher humidity a manual process? Why not always flow dry air or N2 gas?*

1. We think that the culprit lies in the AG slide.
2. Yes, as a quick fix, we have installed an airflow system that is manually turned on and off. We do not always flow dry air, because we are afraid that the system may create internal seeing.

Freudling: *I would like to point out that the archive does not deliver master calibrations by default, thye are only delivered if specifically requested. When the raw and science calibration data are downloaded, the pipeline with the reflex workflow process them correctly and the spectra will not be affected by the problem you raised in issue #8.*

CalSelector delivers certain master calibrations when one selects the "+associated raw calibrations" option, e.g., the master response, which causes the issue.