Questions, Comments and Answers following the presentation

Metrology

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Modigliani: *In X-shooter we use the first of three AFC compensation frames. But if the telescope points not at zenith (as usual), particularly in stare with long exposures, should not one take advantage of having also an AFC frame at the end of the observation to apply a differential (more accurate) correction?*

There are in fact three exposures taken for the AFC (in each arm). But they are all before the science exposure. The last of these, with the target centred on the slit, is used for optimising the physical model parameters. A further AFC exposure at the end of a long science exposure would enable another optimisation of the model appropriate to the end of the science exposure. One could then use the mean of the dispersion solutions provided by the physical model optimisations before and after the long science exposure in the wavelength calibration. However, I would expect this to offer only a relatively small improvement, moreover, any (slight) smearing out of the spectra during a long science exposure due to flexure could not be remedied in this way. Finally, all of this is really only relevant to the NIR arm for which the AFC exposure samples the entire echellogramme, the UVB and VIS arm AFC exposures only sample a small window in the echellogramme that is not sufficient to derive more than a uniform shift correction for the 2D wavelength solution. Hence, more useful would be full frame UVB/VIS AFC frames (this would only need to be the case for the last of the three aforementioned AFC exposures).

Nave: *Are the spectra of the gas cell superimposed on the stellar spectra or are they separate?*

The cells can be used either in the path from the telescope or with the separate lamps (only those in the integrating sphere), so are useable both as a superimposed standard or as a separate calibration source (eg. in combination with a flat field lamp). The gas cells cannot be combined with the spectro-polarimeter, because both the cells and the polarimeter are situated on the calibration slide and therefore cannot be simultaneously in the beam.