

*Questions, Comments and Answers following the presentation*

*Is there a place for perfectionism in the NIR spectral data reduction?*

Igor Chilingarian

Lupton: *Do you see spatial structure in your 4'x7' field? how about the ramp?*

In the 300-sec long integrations we do not see them. We did not check the up-the-ramp frames.

Deustug: *What is the brightness range of the scanned stars in the Las Campanas Stellar Library?*

0 to 11-12mag in the J band which corresponds to 1/20 to 300sec effective on-the-slit exposure times

Roth: *In the non-sidereal tracking technique that you have described, how do you treat the occurrence of speckles in the process of optimal extraction for the case of bright stars?*

We do see speckles and we perform the optimal extraction with an empirically determined wavelength-dependent profile, that's why we are "slit loss free".

Rutten: *What is the accuracy in flux that you can achieve?*

Our goal is 3% global photometric accuracy and 0.5% local photometric accuracy (200nm windows). As of now, we can reach the 0.5% local value, for the global quality we need to run some extra tests perhaps using spectra from different sources (X-Shooter Spectral Library and IRTF) in order to perform all necessary cross-checks

Nave:

1. *Can you incorporate the data from APOGEE in your spectral library, which have 100k+ stars in the H-band?*
  2. *Have you tried U/Ne lamps rather than Th/Ar?*
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1. Little correlation between APOGEE data and FIRE data - APOGEE has faint stars and narrow wavelength regions whereas FIRE has wide wavelength range for bright stars.
  2. No - only Th/Ar available on the instrument.

Modigliani:

1. *May you please clarify your 3d Poly model? Degree 6 along the dispersion direction, degree 9 across the dispersion direction, degree 1 along the slit?*
2. *What is the physical difference between the modelling across the dispersion direction and the modelling along the slit?*
3. *And why only Deg 1 along the slit? (not 2 or more)?*

1. It is degree 6 along the dispersion, degree 9 as a function of the Echelle order number, and degree 1 along the slit (i.e. the slit image is considered straight).
2. Modelling "across" dispersion in my case means "across different orders" -- we fit one solution over all orders rather than dealing with individual orders.
3. We ran a few tests and they demonstrated that the degree 1 is sufficient (I know that for X-shooter you need higher degrees because your slit image is curved).