SALT Pipeline Developments

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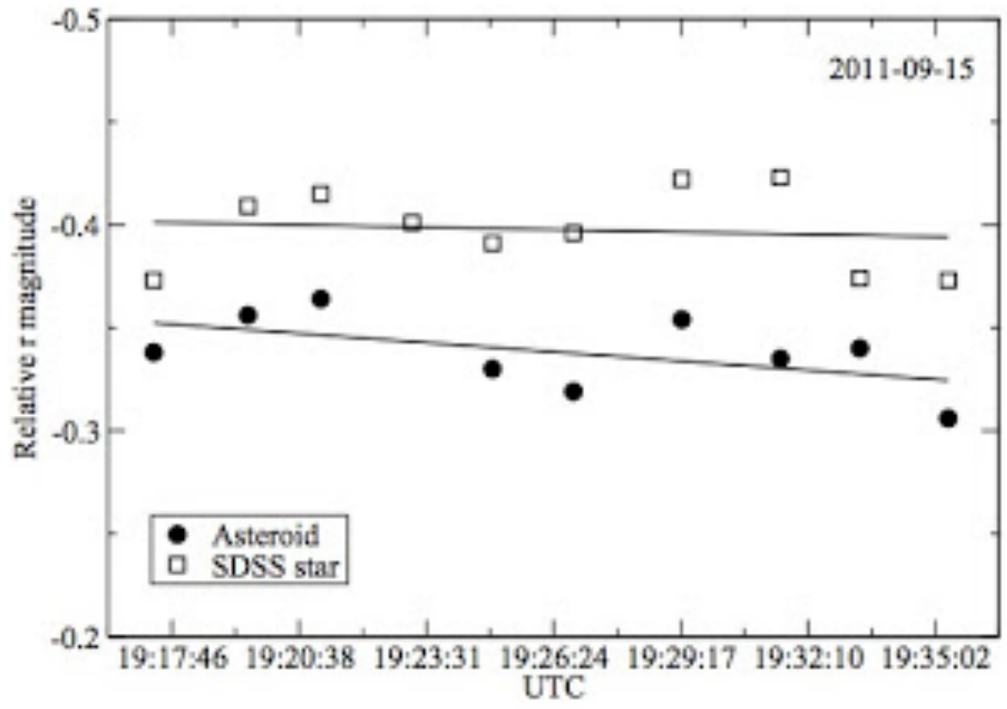
SALT Science Data Manager

SAAO/SALT

Science Papers

10 Science papers this year
- RSA, POL, DC, UKSC
- 5 since Second Light

Very easy to track papers that include the SALT acknowledgements, but better statistics are possible if the proposal code is included and SALT papers are cited.



Christou et al. 2012

http://saltastro.blogspot.com/2012/11/a-new-salt-asteroid-publication.html

Data Products

Nightly Data Averages						
	SALTICAM			RSS		
Month	Average	Max	Total	Average	Max	Total
May 2012	0.58	3.06	12.73	2.10	10.42	48.25
Jun 2012	1.06	7.01	19.00	2.77	25.22	58.10
Jul 2012	0.70	4.27	13.32	1.99	5.10	37.80
Aug 2012	0.04	0.21	0.77	1.96	4.97	37.26
Sep 2012	0.03	0.08	0.59	1.97	4.38	51.19
Oct 2012	0.00	0.00	0.00	1.01	3.13	23.25

PySALT

Version 0.40 was released on 1 June 2012.

- Basic Long slit reductions
- Fabry Perot software
- Updates to saltred package
- 8000+ additional lines of code over version 0.35

Version 0.41 was released in July 2012

- Updates and bug fixes
- Proposal tools

Production Version: 43000 lines of code

Next Version

Version 0.42 nightly release available now

- Initial MOS reductions
- Slotmode reductions and timing fix
- Additional ~6000 lines of code over 0.40

MOS Mask Making

File Help

Target Name:

Mask Name:

Mode:

Catalogue Centroiding: **OFF**

Save

Coordinates of Mask Centre:

Centre RA:	Centre DEC:	Equinox:	Positional Angle:
73.5196881975	-3.02375520979	2000	0

RSS Setup:

Filter:	Grating:	Camera Ang.:	Grating Ang.:

Instructions | Info | Catalogue | Slits | Optimize | Refstars | Finalize

Import objects and assign slits to all objects (Catalogue mode); or add slits manually to table below (either manual mode
Slit collisionons may be resolved manually by editing the table below or automatically in the Optimize ta

Import from Catalogue: Add slits to all catalogue objects

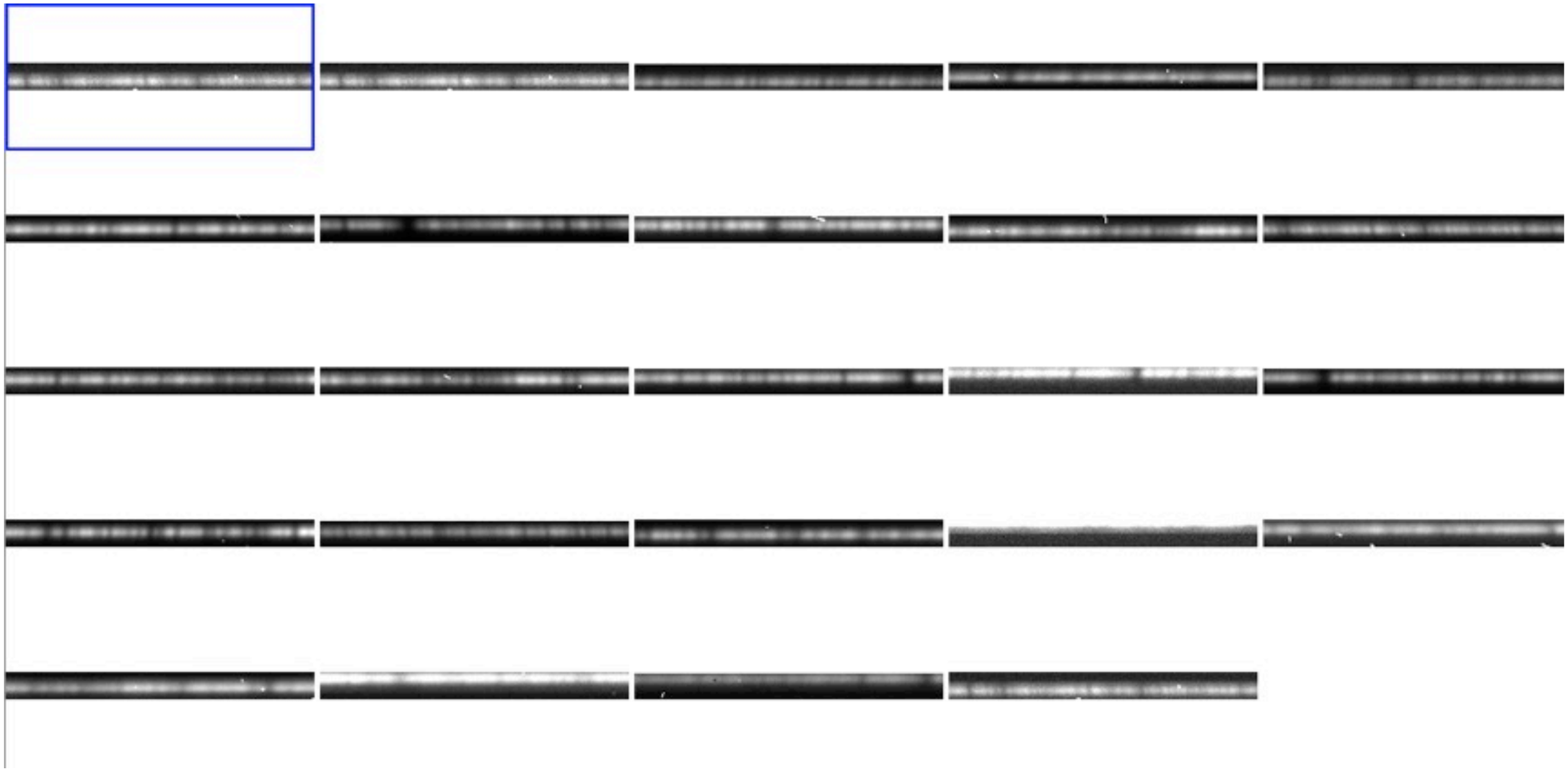
Manually edit slits: Add slit | Delete slit

Import from image Add slit | Delete slit

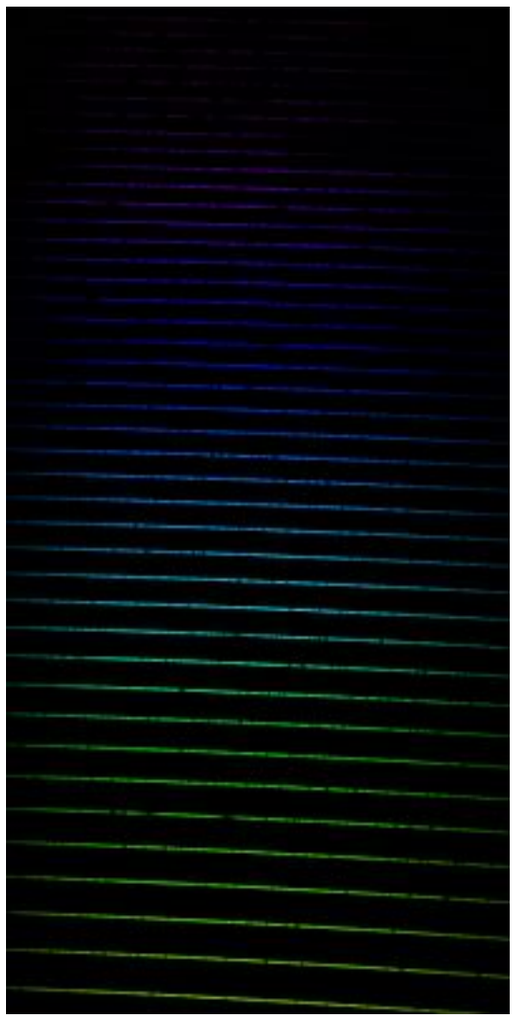
Clear

	Object name	RA	DEC	Width	Length1	Length2	Tilt	Mag	Priority	Flag
1	3073	73.594025	-3.009600	1.500000	5.000000	5.000000	0.000000	20.740000	1.000000	inMask outFoV
2	1726	73.549652	-3.044432	1.500000	5.000000	5.000000	0.000000	19.430000	1.000000	inMask inFoV
3	568	73.490784	-3.032376	1.500000	5.000000	5.000000	0.000000	20.660000	1.000000	inMask inFoV
4	453	73.486824	-3.040567	1.500000	5.000000	5.000000	0.000000	19.910000	1.000000	inMask inFoV
5	435	73.482697	-3.001834	1.500000	5.000000	5.000000	0.000000	22.530001	1.000000	inMask inFoV
6	1968	73.552841	-3.015063	1.500000	5.000000	5.000000	0.000000	21.450001	1.000000	inMask inFoV
7	387	73.481018	-3.022414	1.500000	5.000000	5.000000	0.000000	21.969999	1.000000	inMask inFoV

MOS reductions



HRS Work



Luke Tyas

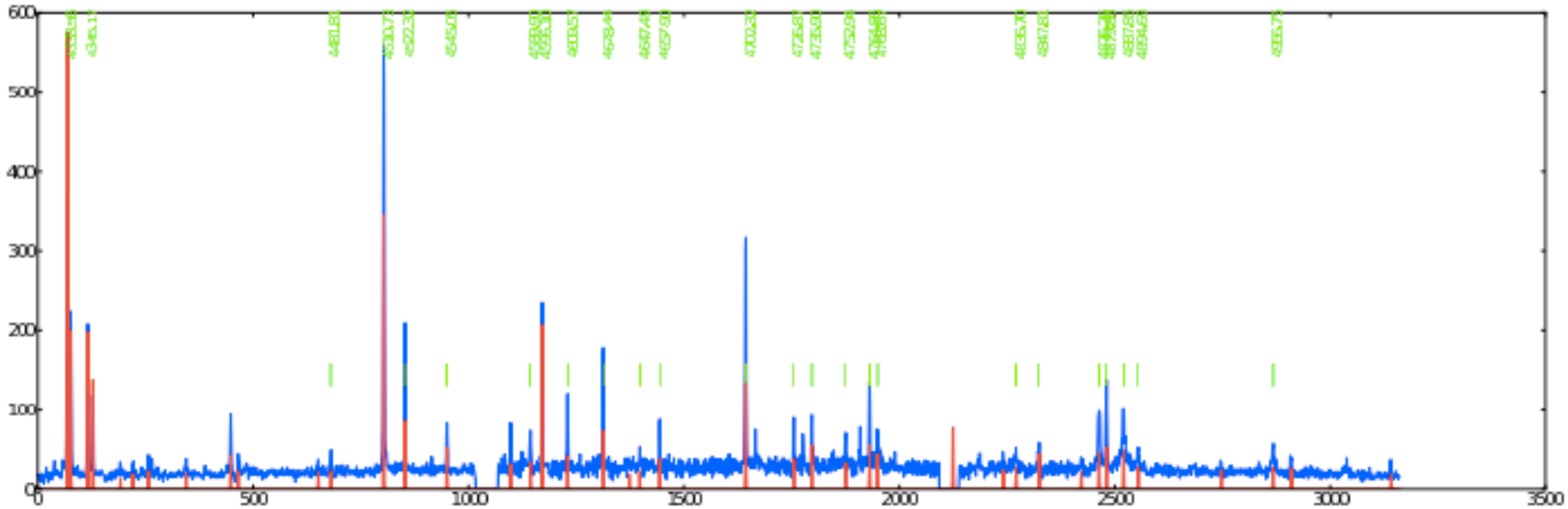
The creation of calibration frames requires the folling IRAF tasks (clicking on the task name links to the current parameter set required for FIEStool data reduction):

- apdefault
- apfind
- apflat
- apflat1
- apflatten
- apscat1
- apscat2
- apscatter
- apsum
- apsum_wave
- aptrace
- dispcor
- ecidentify
- ecreidentify
- fit1d
- refspec

Line Atlas

http://pysalt.salt.ac.za/lineatlas/lineatlas.html

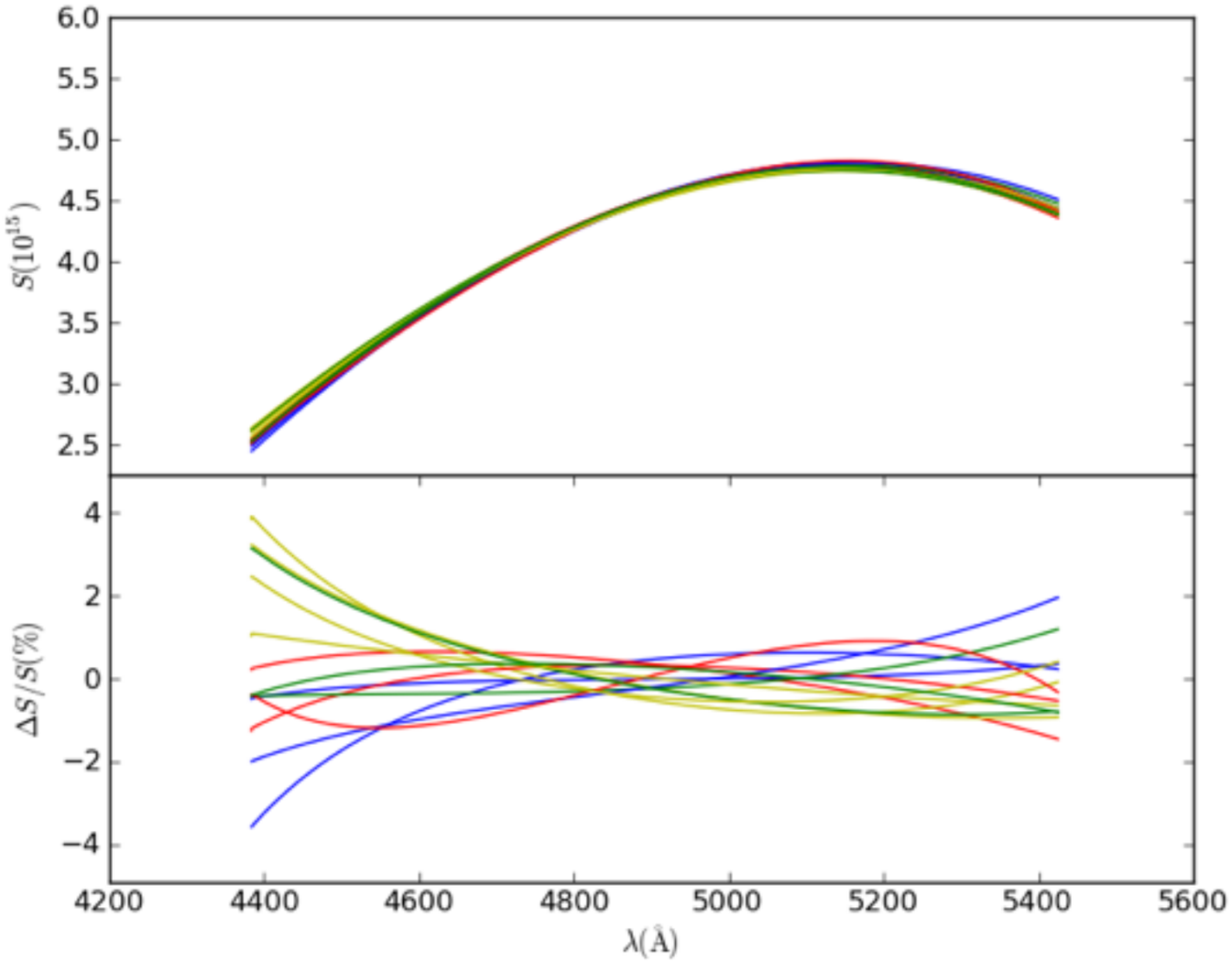
Figure 8: 0816 — 040: Ar PG3000 GR = 44.750 AR = 89.509 $\lambda\lambda = 4316 - 5012$



Anja Schroeder

Data Quality

Variation in Standard Star Observations
Observations with the same configuration over 3 months



https://sciencewiki.salt.ac.za/index.php/Variability_in_Spectrophotometric_Standards

Future Work

- Improve and automate FP routines
- Improve nightly and monthly statistics
- Improve installations scripts
- distortion corrections
- variance planes and bad pixel maps
- integrating MOS reductions into SALTfirst
- integration of advanced reduction steps into the pipeline
- integration with astropy
- development of requirements for flatfields