

The APO 3.5m at UW

Suzanne Hawley

University of Washington

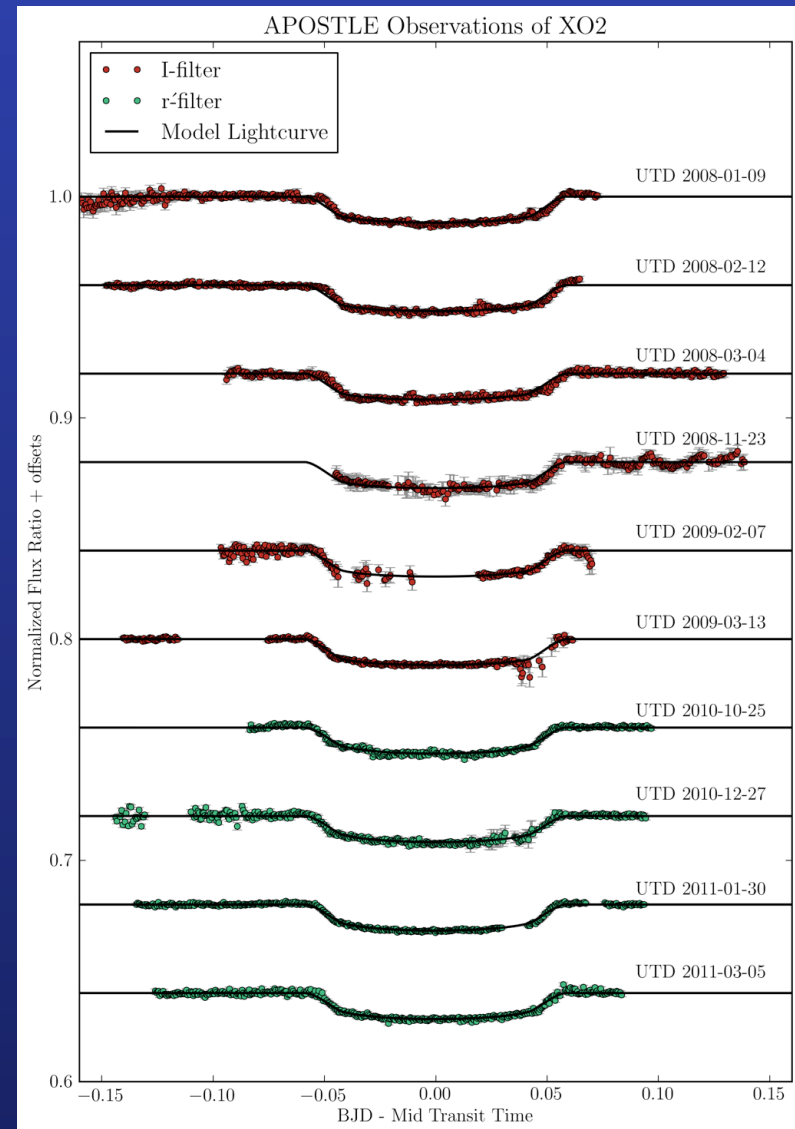
Many scientific programs including:

- chemical abundance studies (Wallerstein)
- planetary nebulae (Balick)
- quasars, AM CVn (Anderson)
- Lunar ranging (APOLLO) (Stubbs, Murphy)
- planet transits (Agol, Becker)
- cataclysmic variables, pulsating WD (Szkody)
- M dwarfs and flare stars (Hawley)

APOSTLE: APO Survey of Transit Lightcurves of Exoplanets

P. Kundurthy (PhD thesis),
A. Becker, E. Agol

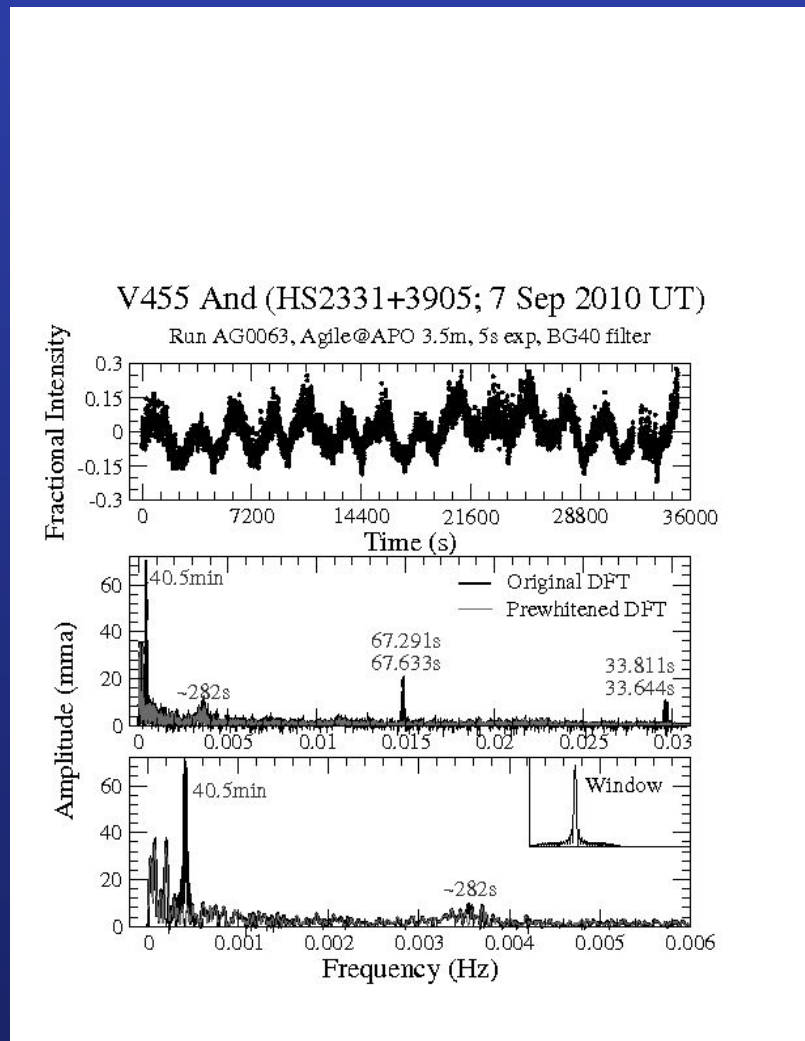
- Used Agile on APO 3.5m to achieve photometric precision ~ 380 ppm for XO2 on 2011-01-30.
- Achieved transit timing precisions of 60 sec or better. This is sufficient to detect minute-level perturbations induced by unseen planetary companions.
- Also observed planetary spot-crossing event and low intensity stellar flare on GJ 1214 (Kundurthy et al. 2011, ApJ, 731, 123).



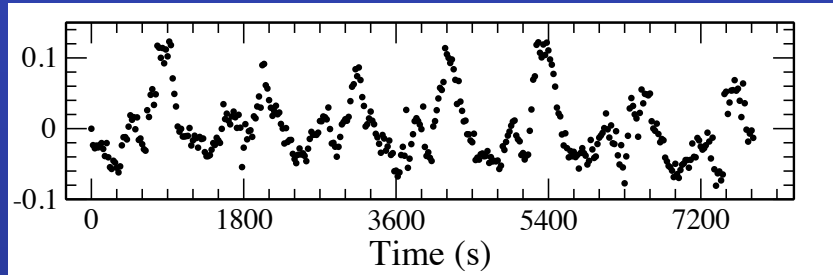
Pulsating, Accreting White Dwarfs

Paula Szkody and Anjum Mukadam

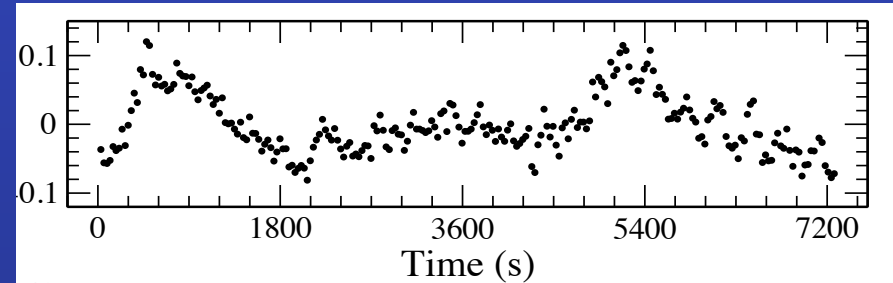
- APO 3.5m data obtained contemporaneous with HST ultraviolet observations
- Agile data on V455 And show a group of pulsations near 282s returning after an outburst. Also evident is the spin of the white dwarf at 67s. The timescale for the return of short-period pulsations allows insight into the depth of heating caused by the outburst accretion, and the mass accreted.



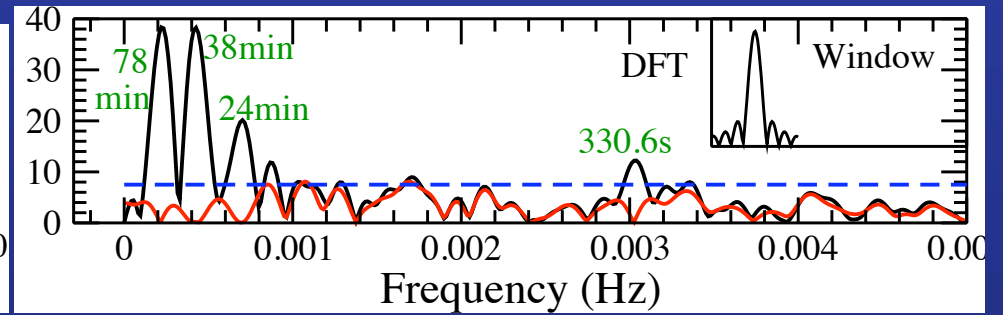
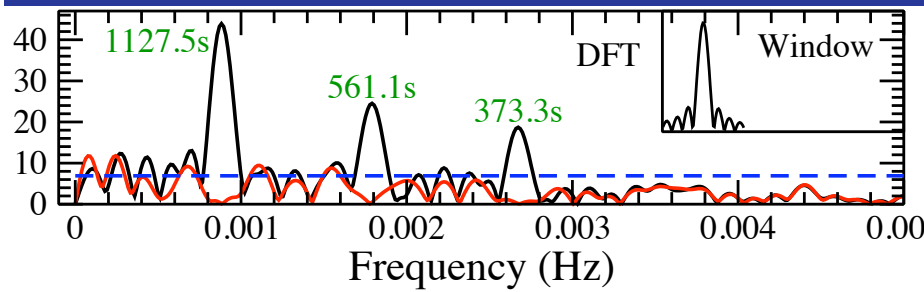
GW Lib at the APO 3.5m



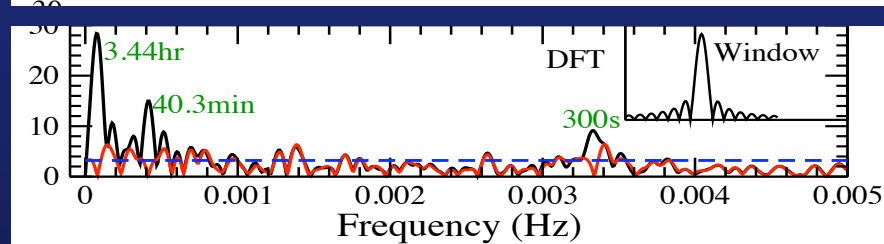
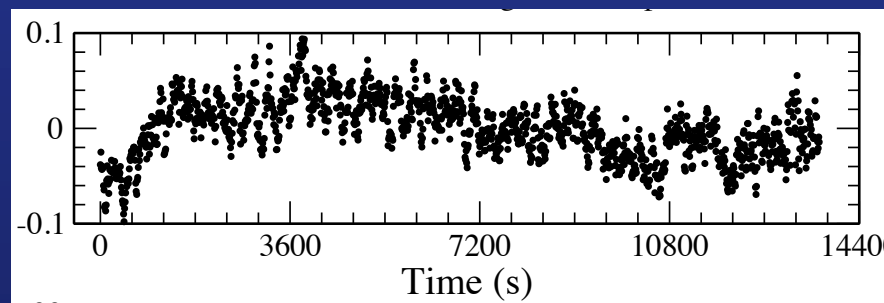
June 2012



May 2013

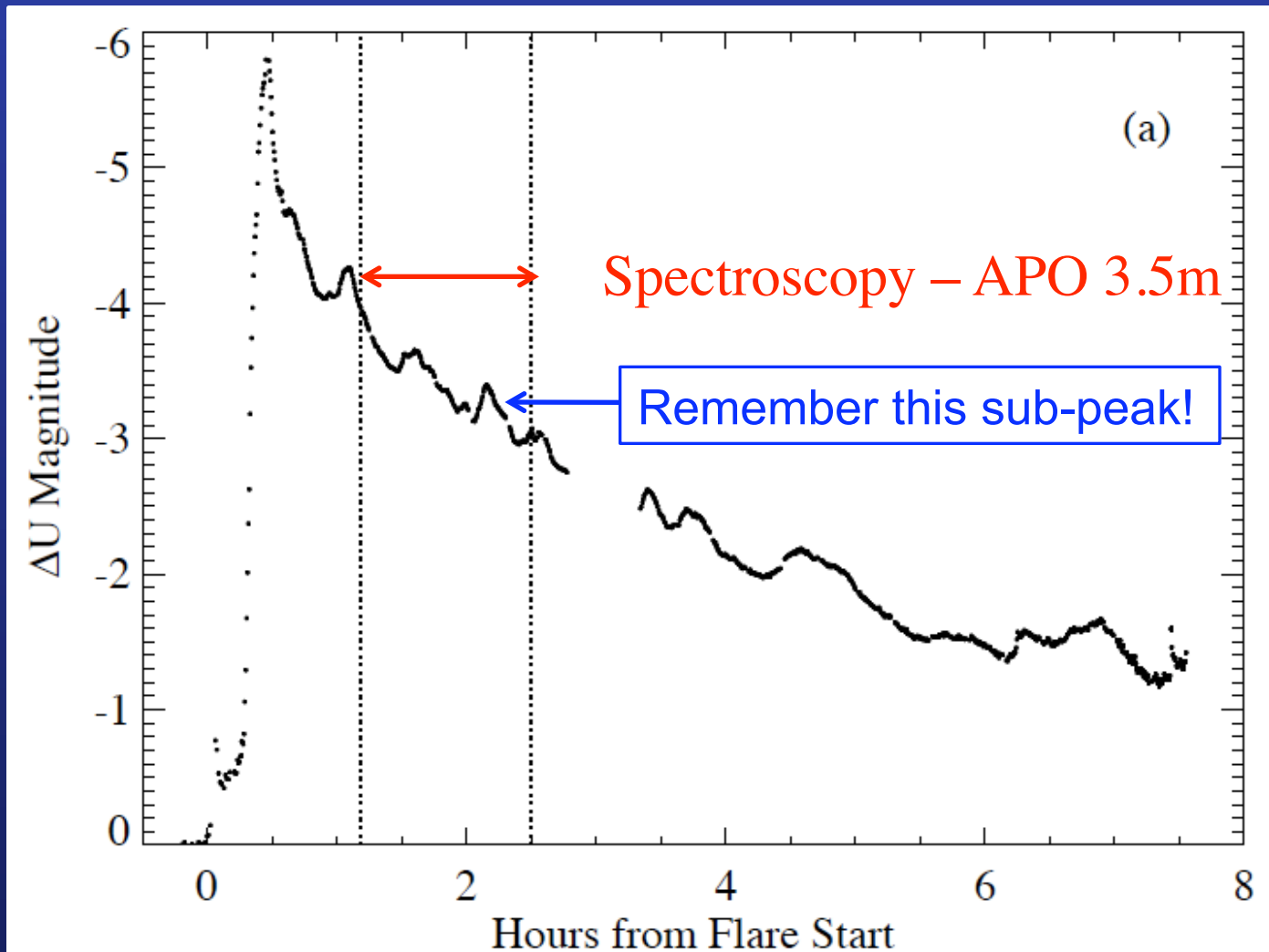


March 2014

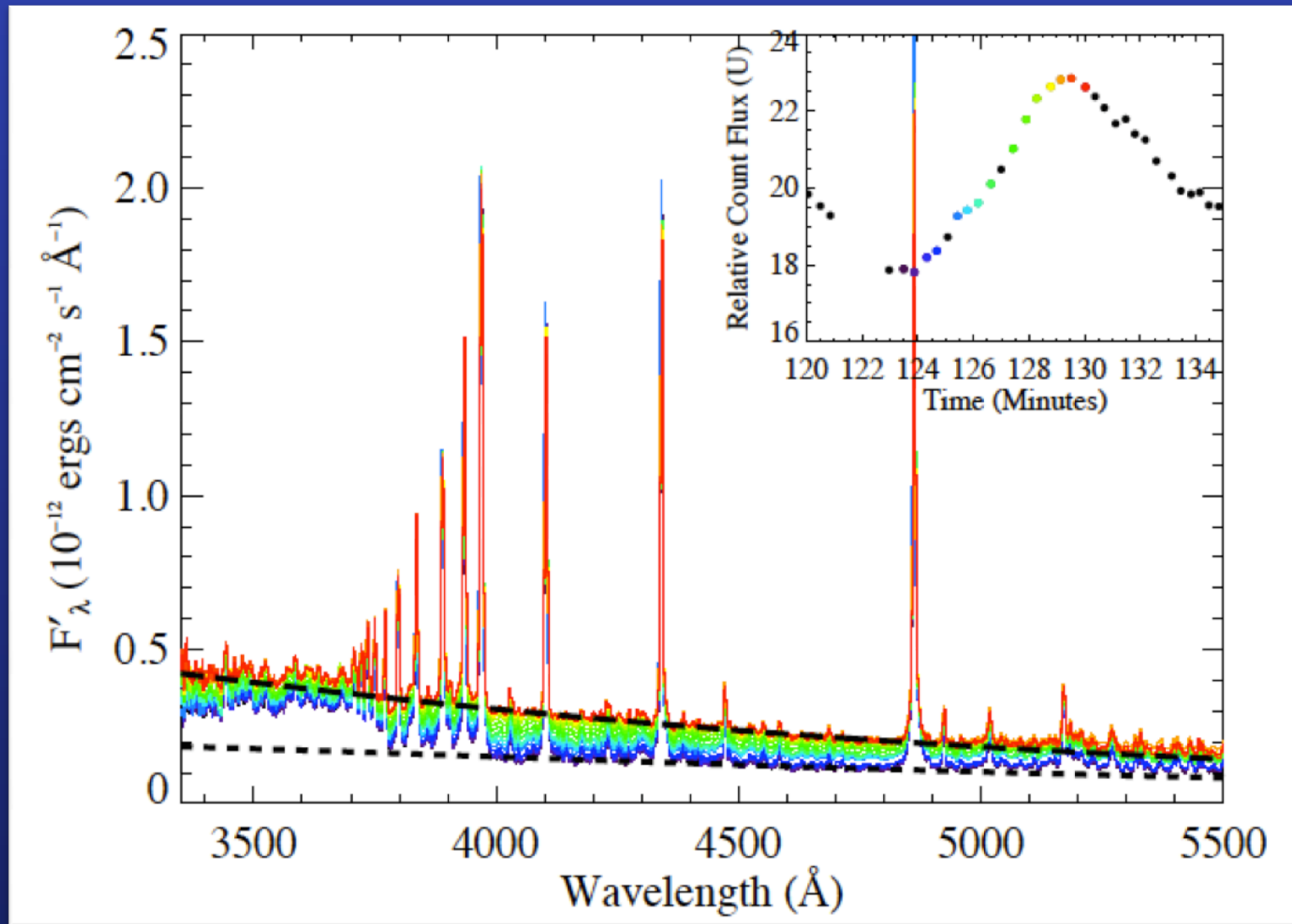


The YZ CMi Mega Flare

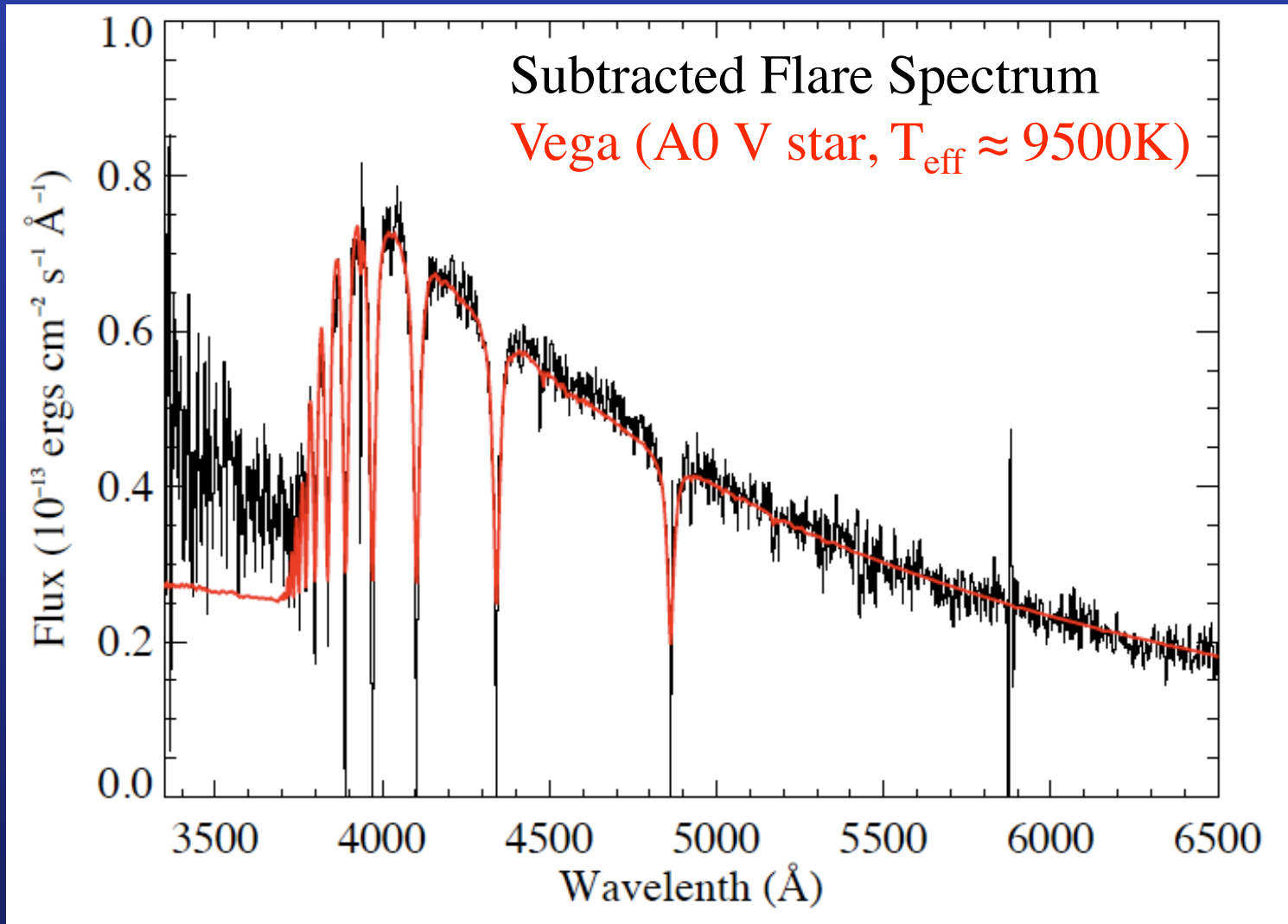
(Adam Kowalski, UW PhD thesis)
Photometry on NMSU 1m telescope
simultaneous spectroscopy on APO 3.5m



Shape of continuum changes during sub-peak



Flare spectrum at peak looks like an A star!



UW Telescope Engineering Group

Mannery, Siegmund, Hull, Owen, Morgan, Doherty,
Leger, Carey, MacDonald, Sayres, Huehnerhoff

- Originally built the 3.5m and 2.5m telescopes
- Instrumentation, including SPICam, DIS upgrades, Agile, ARCTIC
- Continues to provide 3.5m engineering (new top end, new direct drives) and software support (TUI, new TCS, ARCSAT)
- Also active in supporting SDSS I-II-III-IV
- And of course Mike Evans, ARC business manager, without whom nothing would happen!

Graduate student usage

- ~80 graduate students trained for remote observing in past 15 years
- ~25 PhD theses using APO 3.5m data
- Annual summer observing class field trip to APO a highlight of the graduate experience at UW!





ARC 3.5m Telescope
Apache Point Observatory

