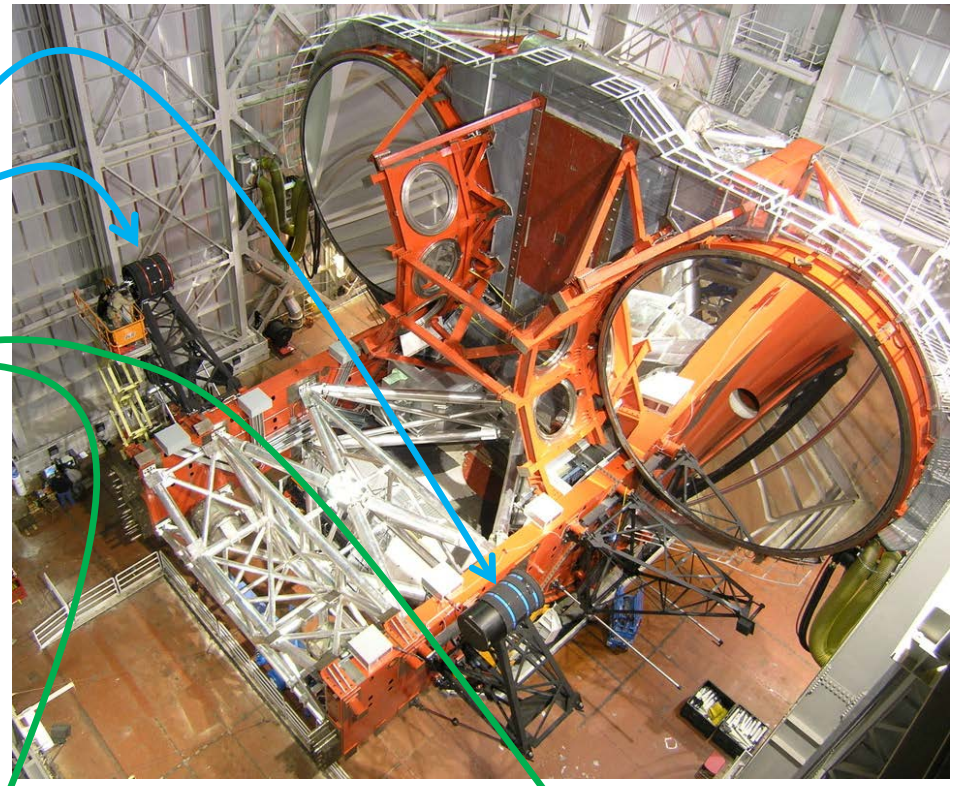
LBTO and the ARTN

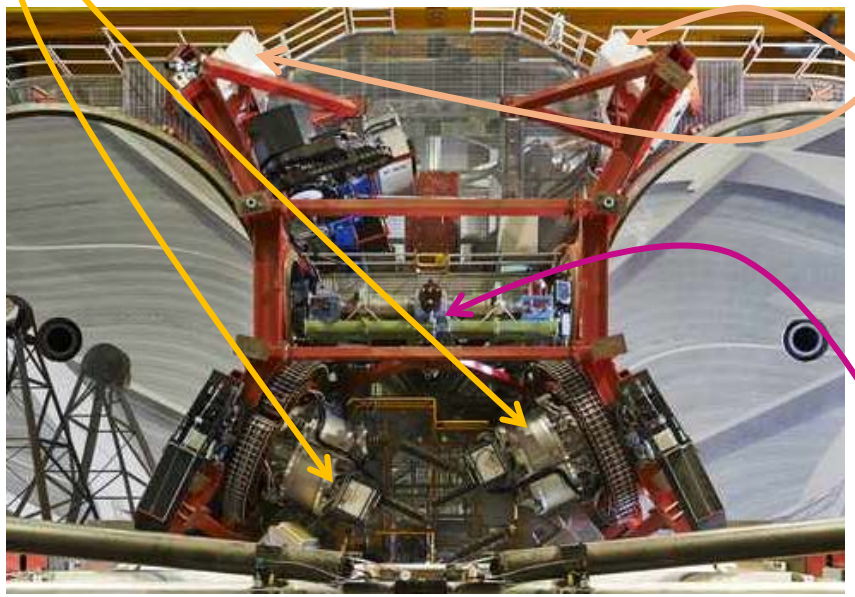
C. Veillet – LBTO Director

CFHT first fully remotely operated telescope on Maunakea

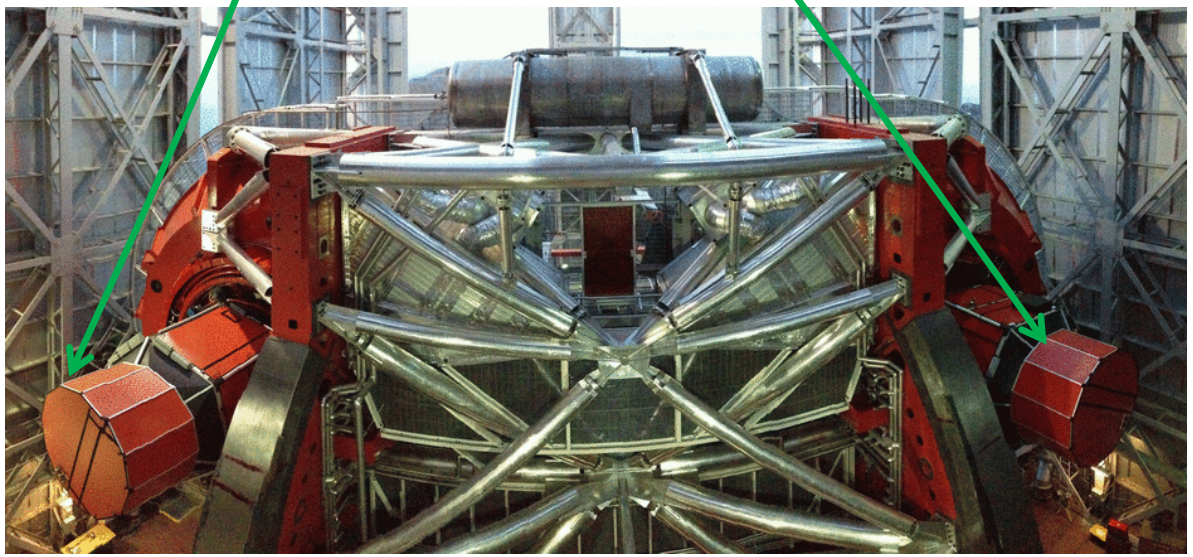
Remote observing at LBTO (N507)

- Two 8.4m main mirrors on the same mount
- Three pairs of “facility instruments”
  - LBCs (wide-field CCD mosaic 23’x26’ - 0.226”/pix)
  - MODS (R~500 to 2000 spectroscopy over 0.32-1.05 µm - 6' x 6' FOV - long slit and MOS)
  - LUCI (imaging & spectroscopy - 0.89 µm to 2.4 µm - 4’x4’ FOV - 500 < R < 12,000 - long slit and MOS)
  - LUCI AO (30”x30” FOV and up to R≈30,000)

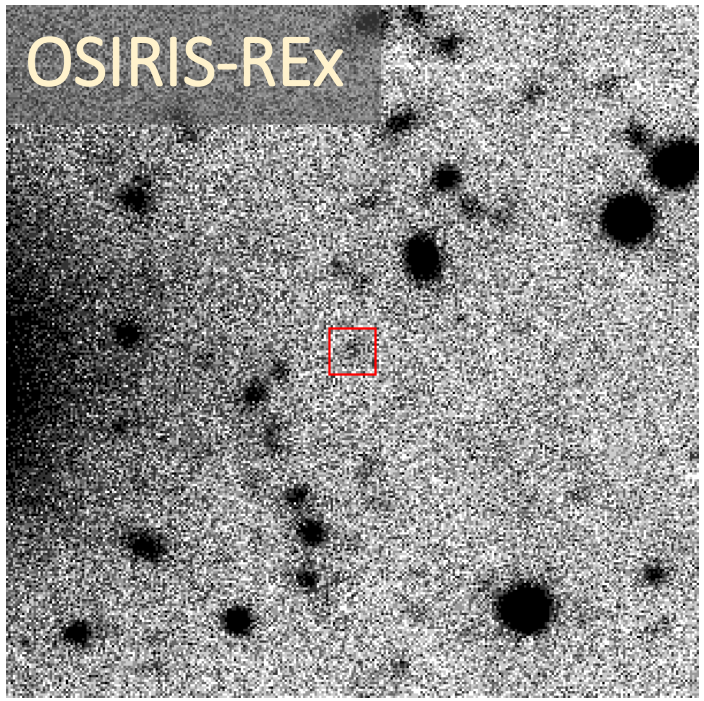




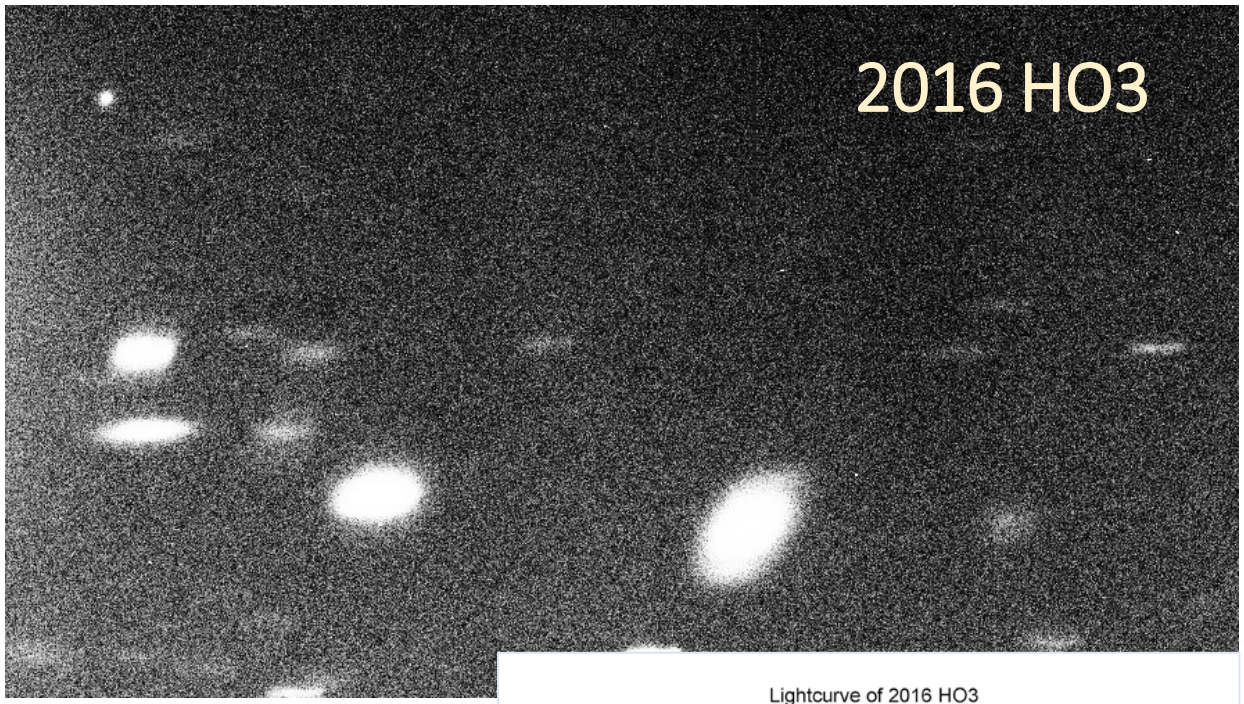
- PEPSI (spectrograph 383 to 907nm R up to 270,000)

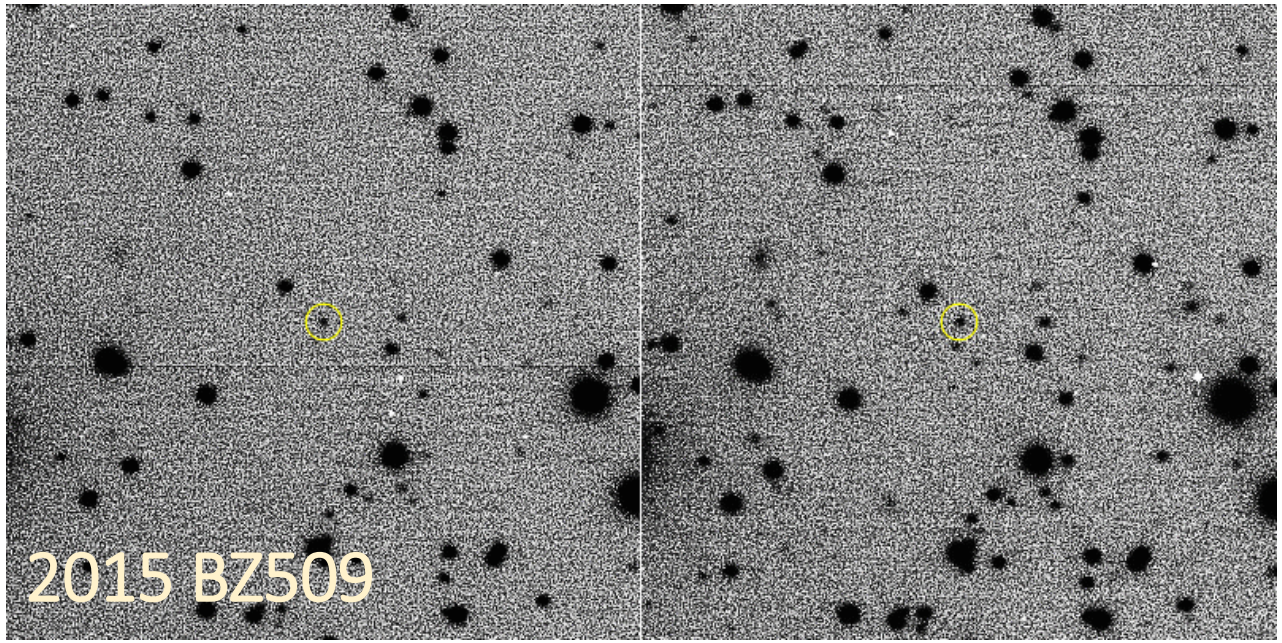


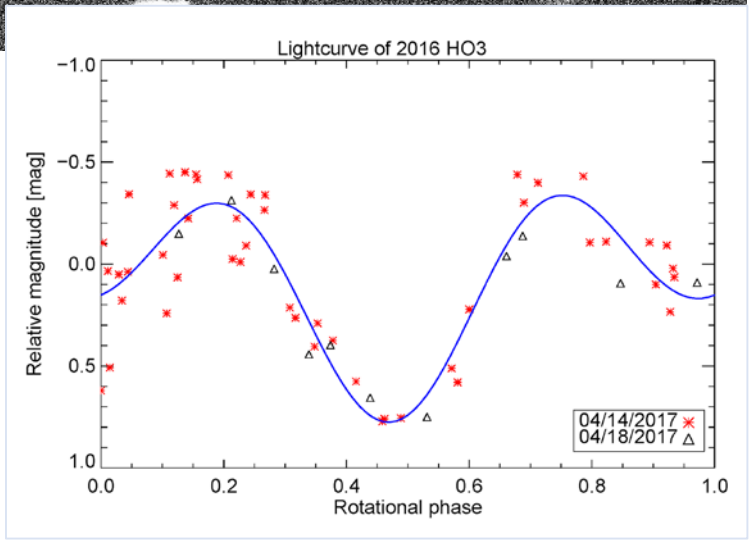
- Imaging in L-M (LMIRcam) and 10 µm (NOMIC)

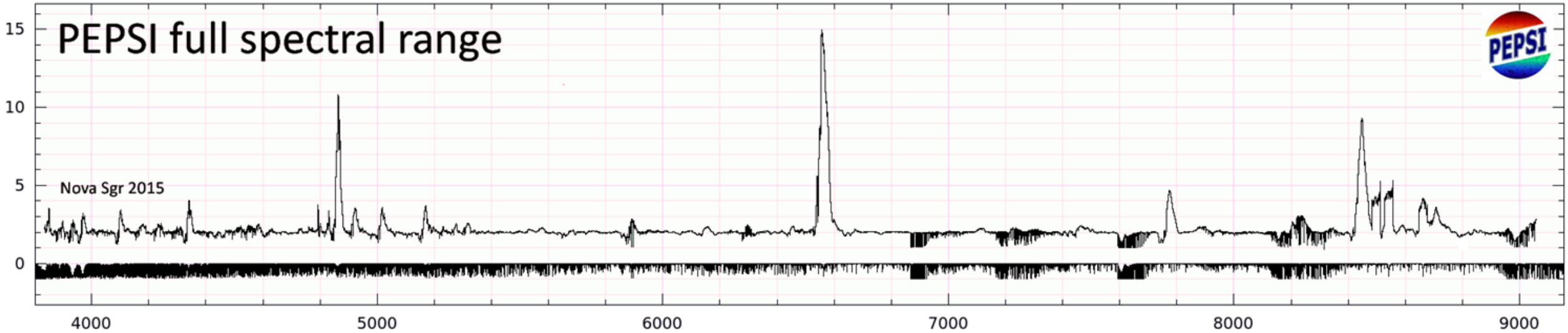

OSIRIS-REx

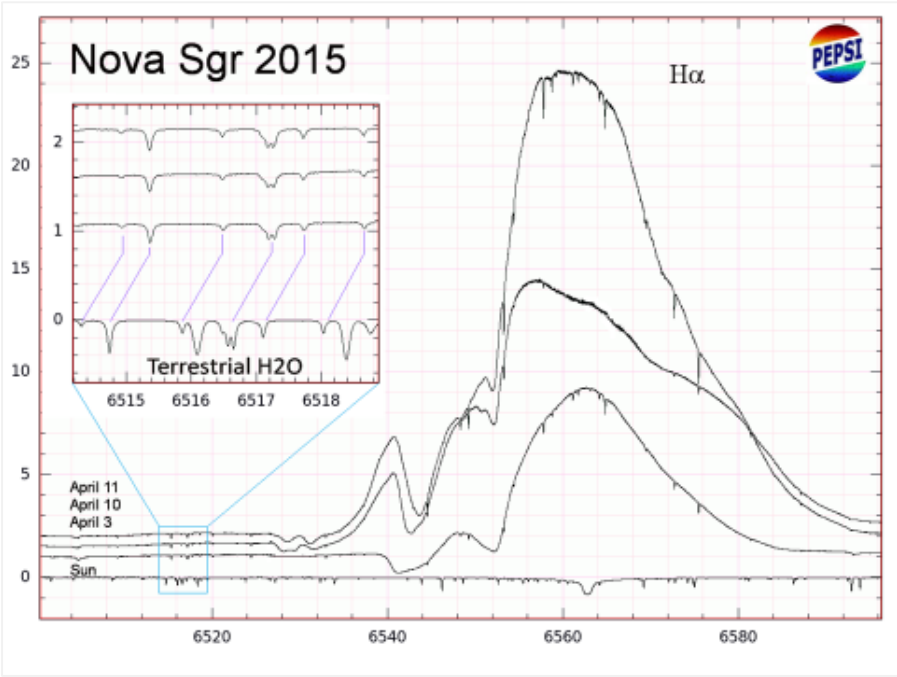
LBC

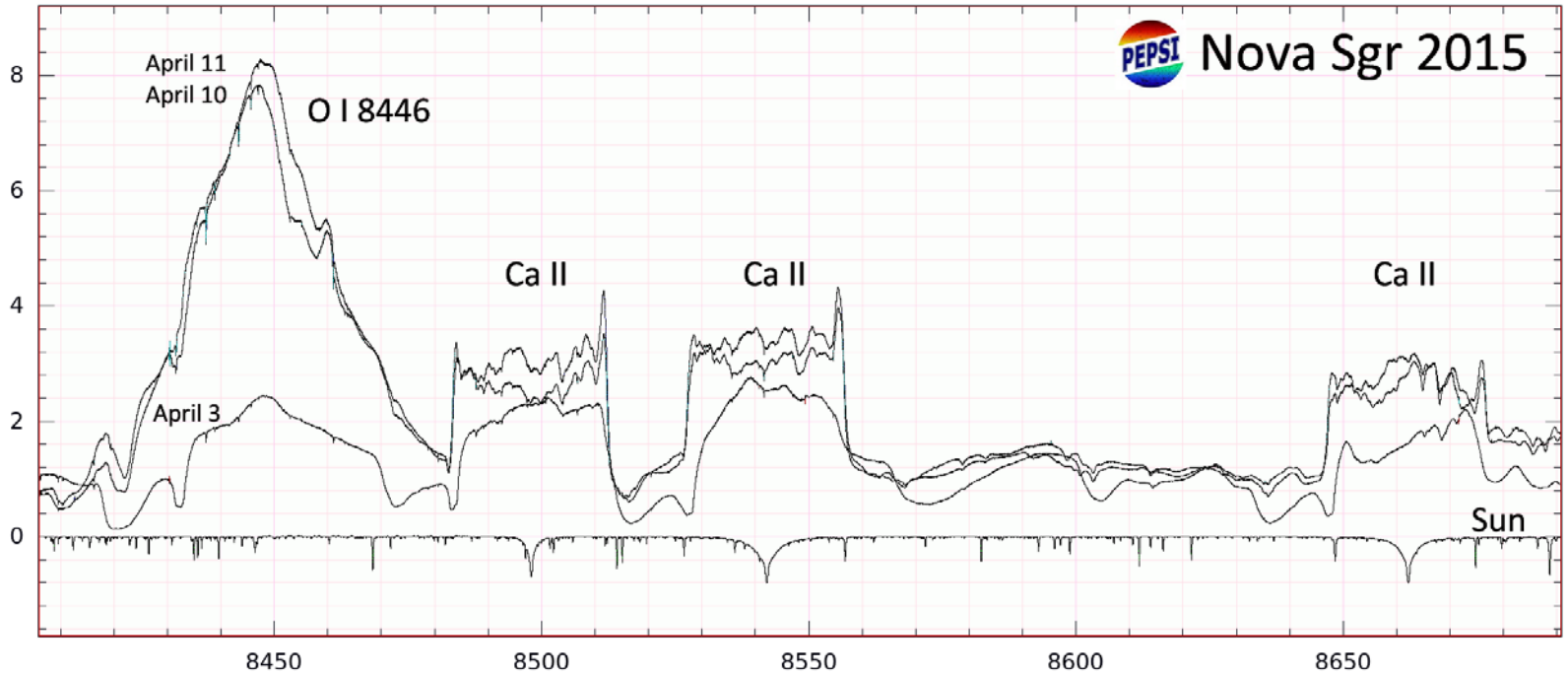

2016 HO3


2015 BZ509

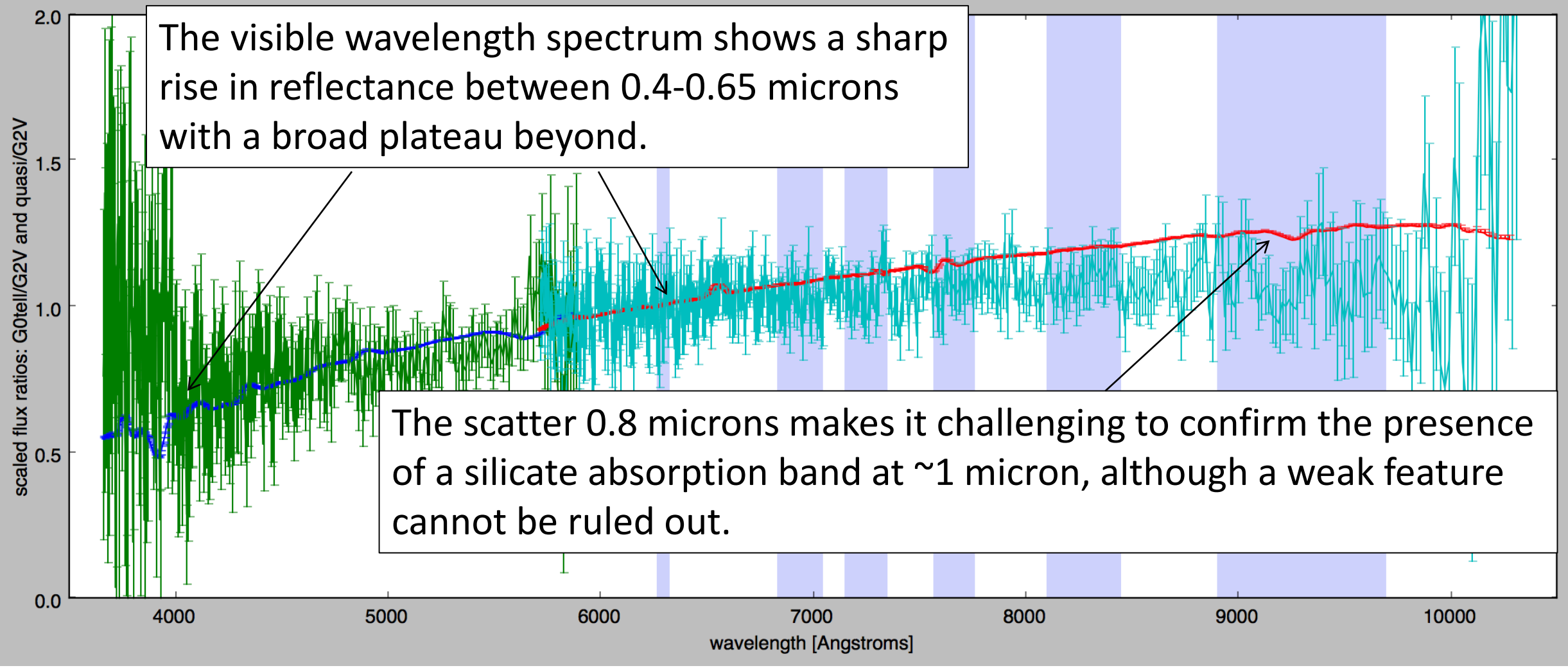

Lightcurve of 2016 HO3
Relative magnitude [mag]
−1.0
−0.5
0.0
0.5
1.0
0.0
0.2
0.4
0.6
0.8
1.0
Rotational phase
04/14/2017
04/18/2017


PEPSI full spectral range
PEPSI
Nova Sgr 2015
15
10
5
0
4000
5000
6000
7000
8000
9000


Nova Sgr 2015
PEPSI
Hα
Terrestrial H2O
6515
6516
6517
6518
April 11
April 10
April 3
Sun
6520
6540
6560
6580


PEPSI Nova Sgr 2015
April 11
April 10
O I 8446
Ca II
Ca II
Ca II
April 3
Sun
8450
8500
8550
8600
8650

MODS spectra



If real, the silicate could be pyroxene (??)

Why to use LBTO?

- When a large telescope is needed (binocular use ~ 11.9m telescope).
- When a unique capability is needed (i.e. PEPSI, L-band imaging, 2-color simultaneous photometry, …)
- …

Note:

- LBTO is not scheduled in queue-mode yet.
- The change from one instrument to another is possible but takes time (10 to 30mn).
- There is no event alert watchdog and automated telescope response yet.

How to use LBTO?

- A pre-allocated TOO program through TAC (UA has a 25% share of LBT).
- A request for Director's Discretionary Time.
- A collaboration with LBTO science staff and using D-time.
- A collaboration with colleagues from other LBTO partners.