

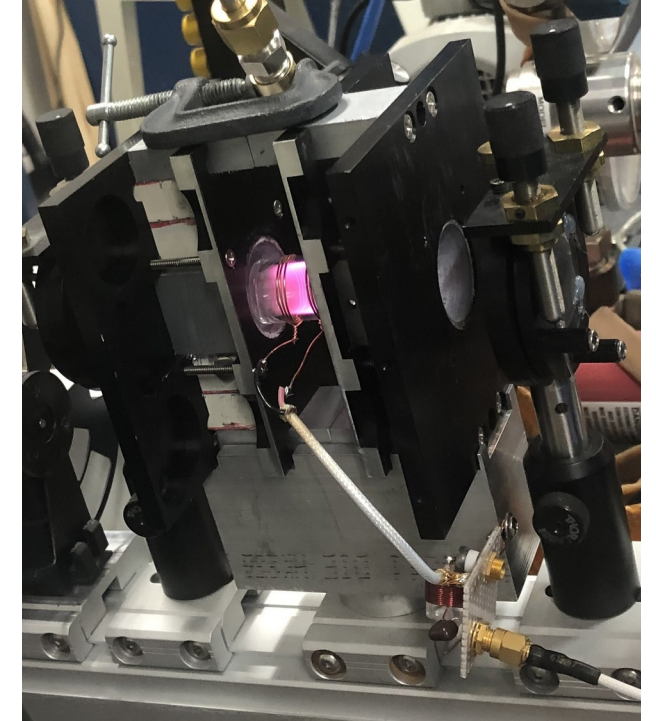
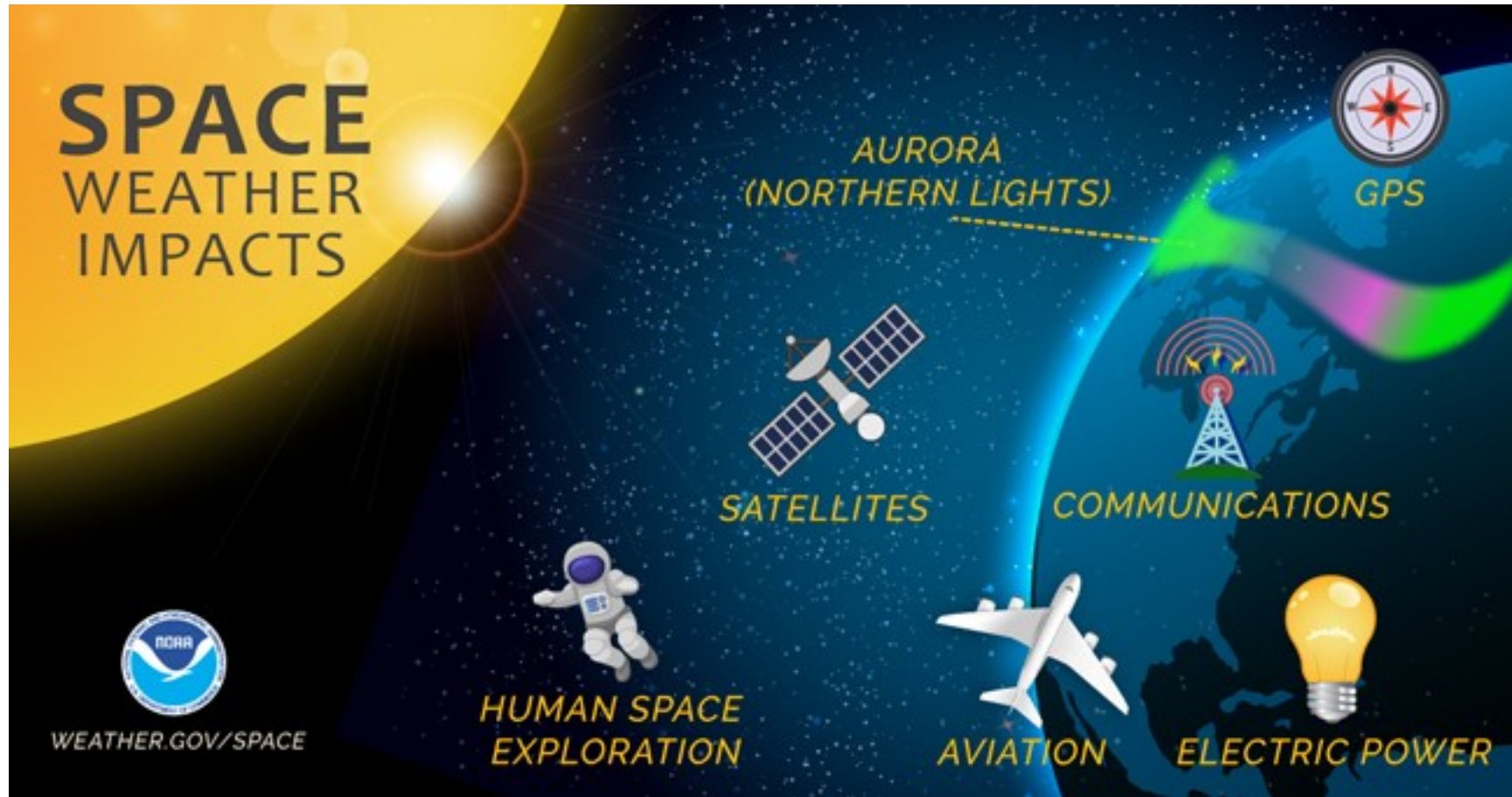
A New Instrument for Synoptic Space Weather Observations



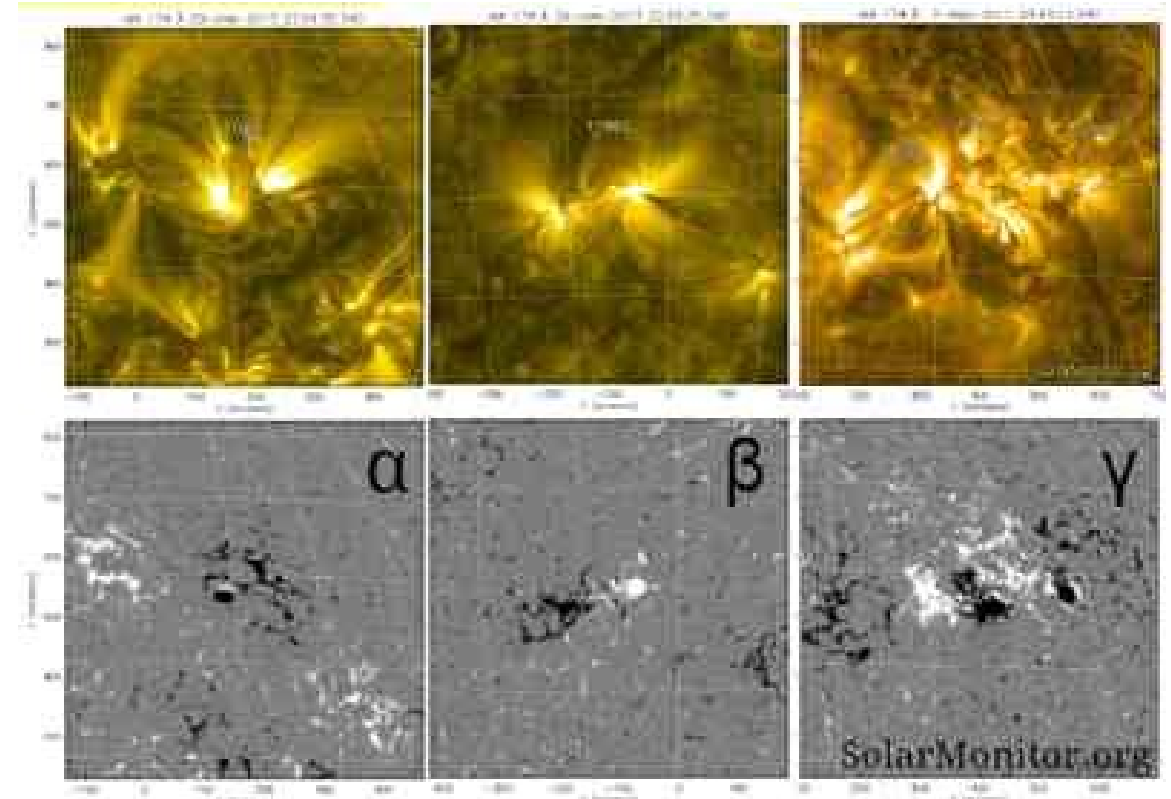
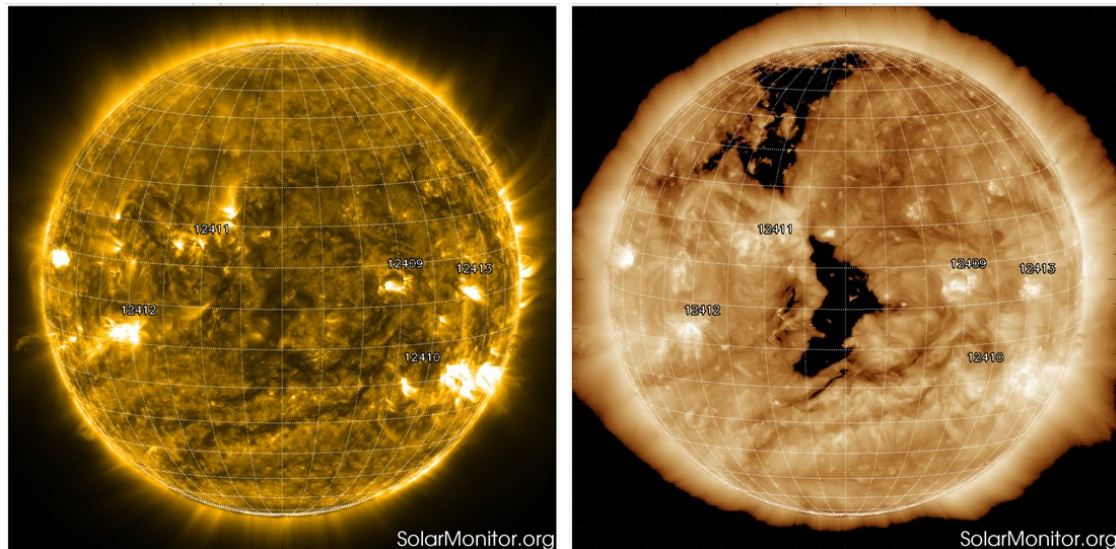
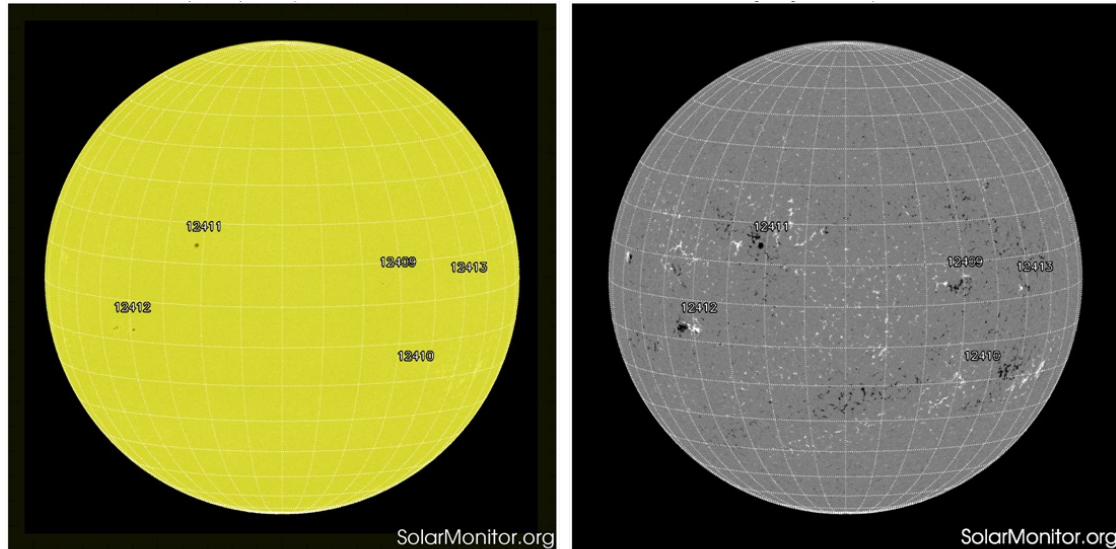
Fallon Konow - SOLARNET: S3 - September 14, 2023
Advisors: Francesco Berrilli, Stuart M. Jefferies, Neil Murphy



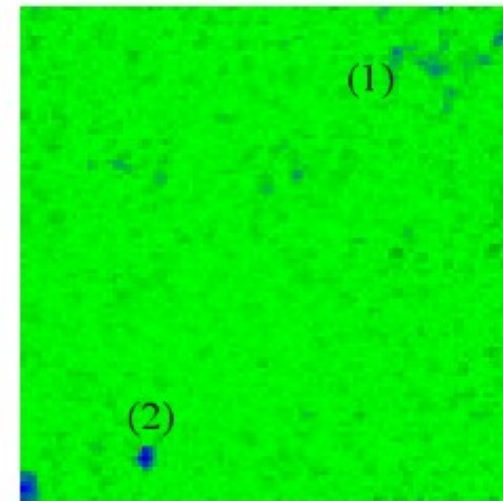
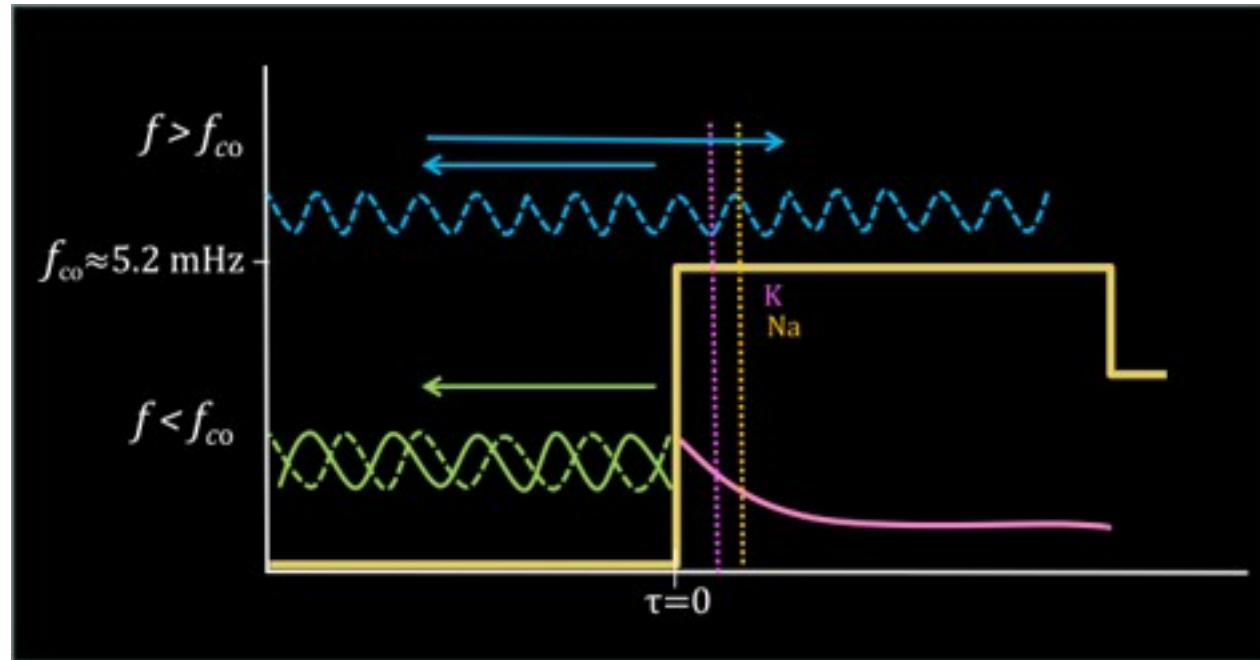
Space Weather Impacts & Technology Development



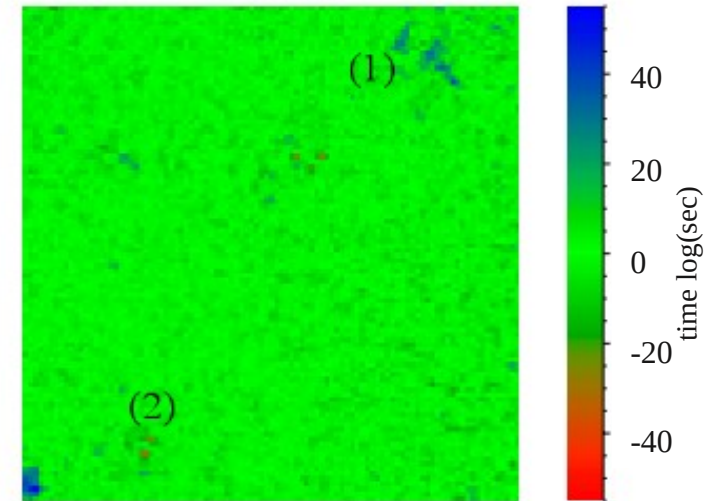
Current Solar Flare prediction



Acoustic Waves in the Solar Atmosphere



c) 4 mHz, t_0

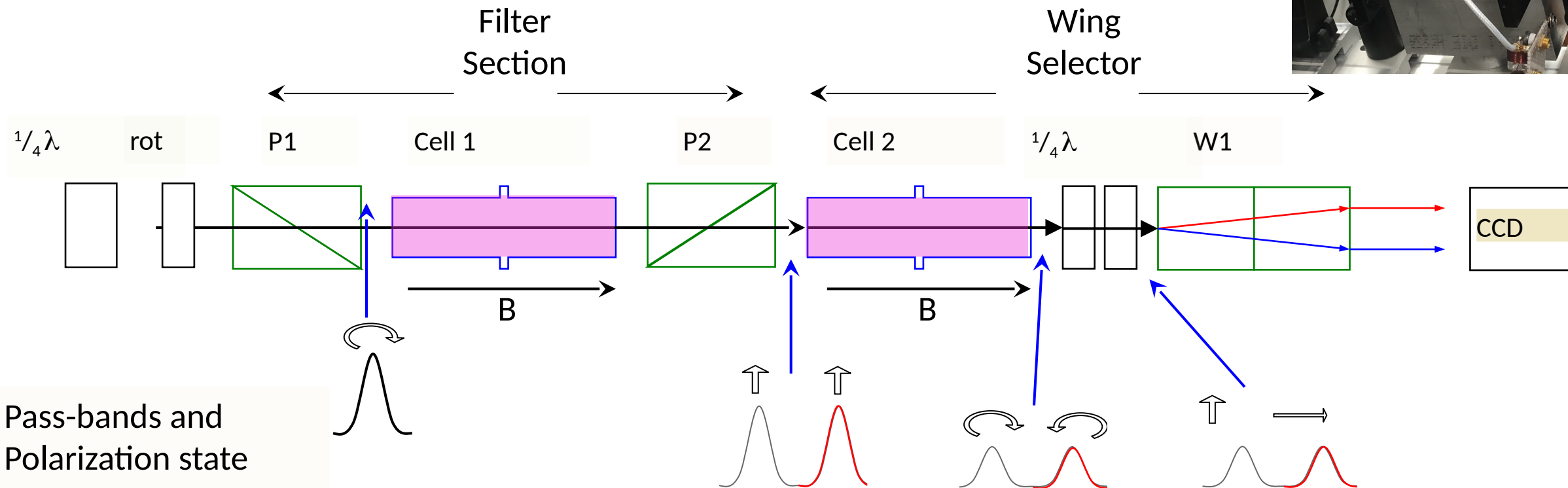
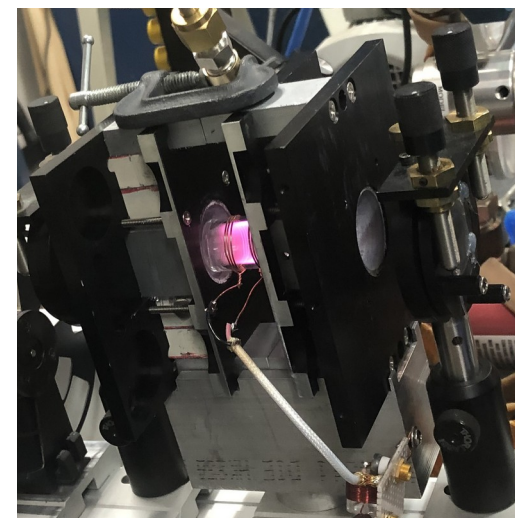


d) 4 mHz, $t_0 + 8.3$ h

Left: Aparna, adapted from Worrall 1991

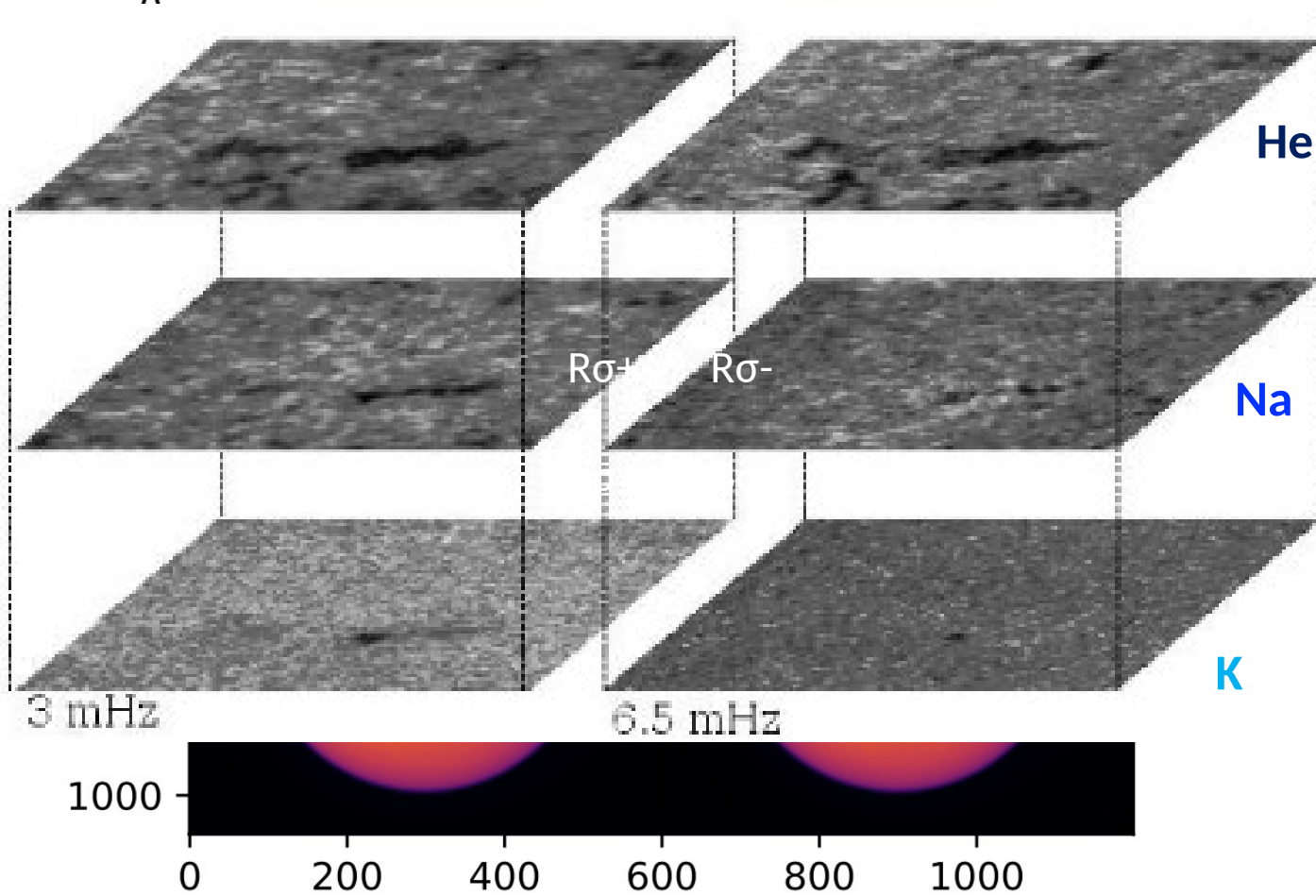
Right: Finsterle et al. 2004

MOFs: Magneto Optical Filters



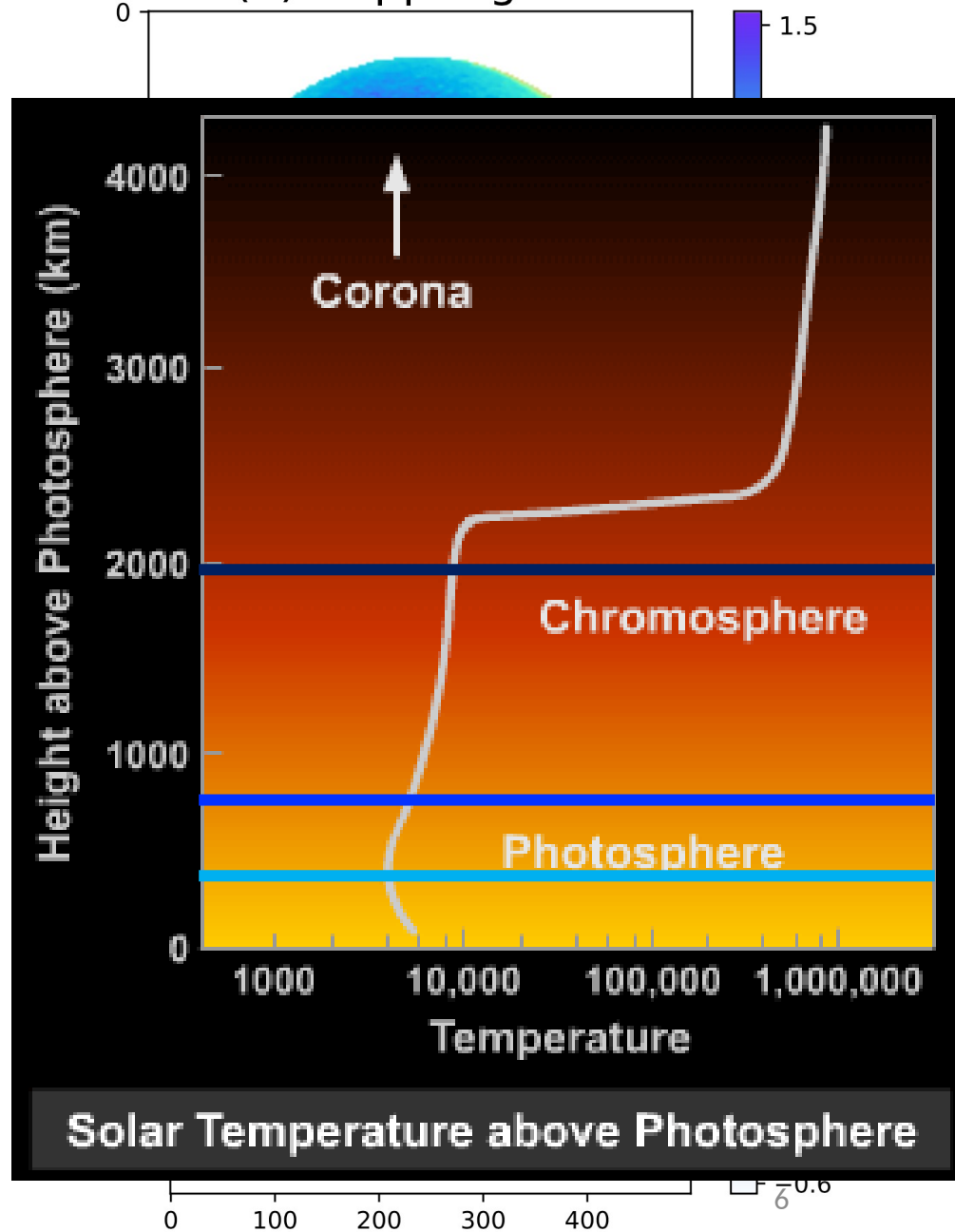
Data Products

(a) Raw Intensity Data



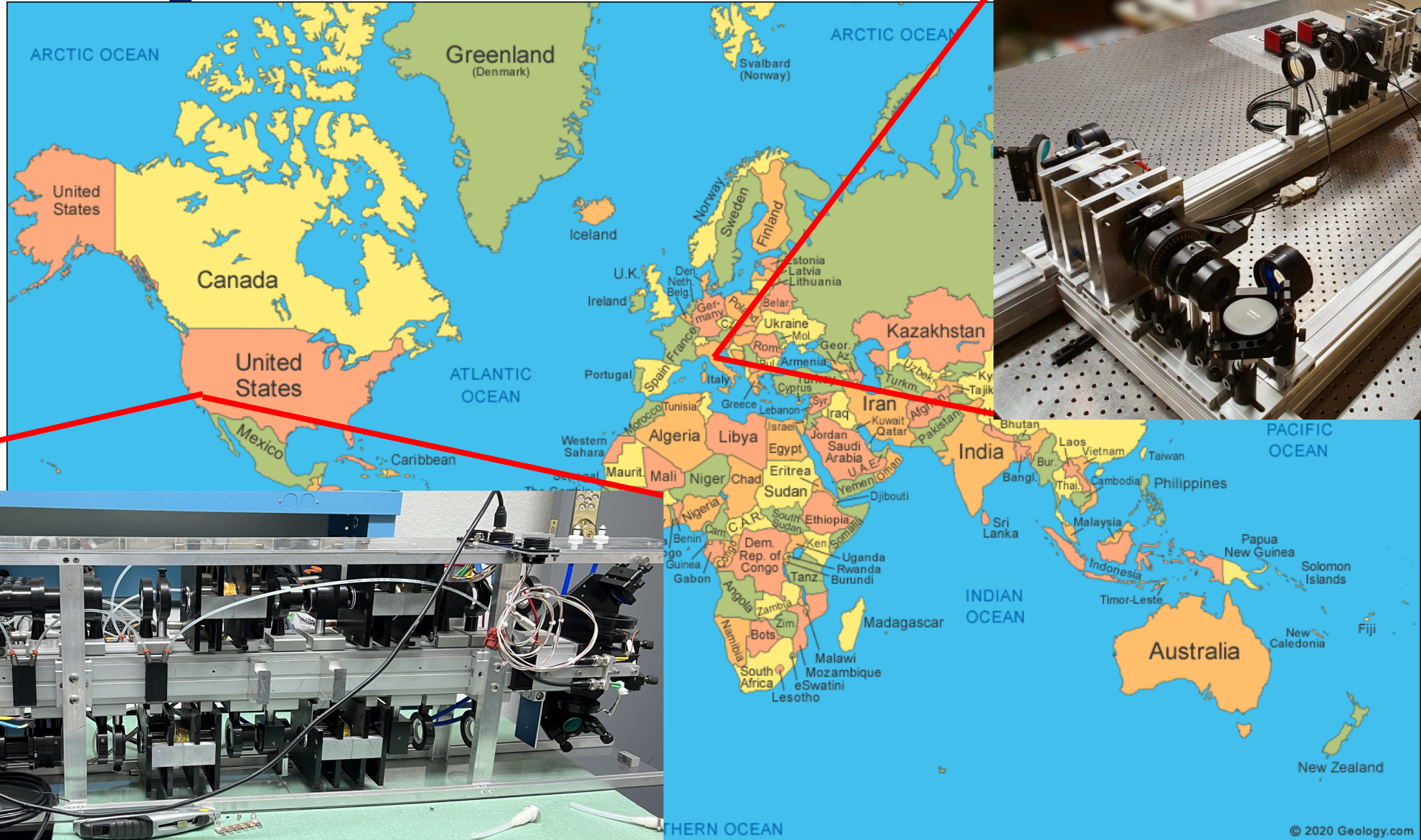
Finsterle et al. 2004

(b) Dopplergram

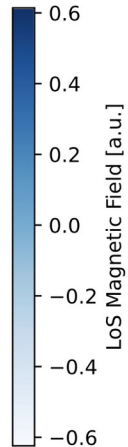


0 100 200 300 400 $\delta^{0.6}$

Where in the World is our Telescope?



Node 1: Apple Valley California, USA



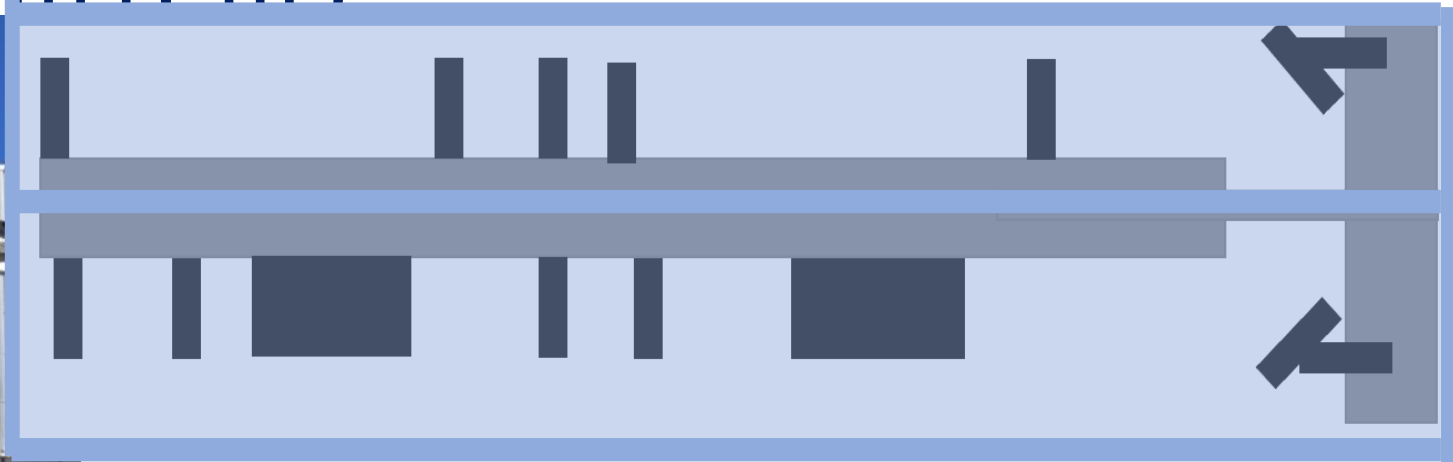
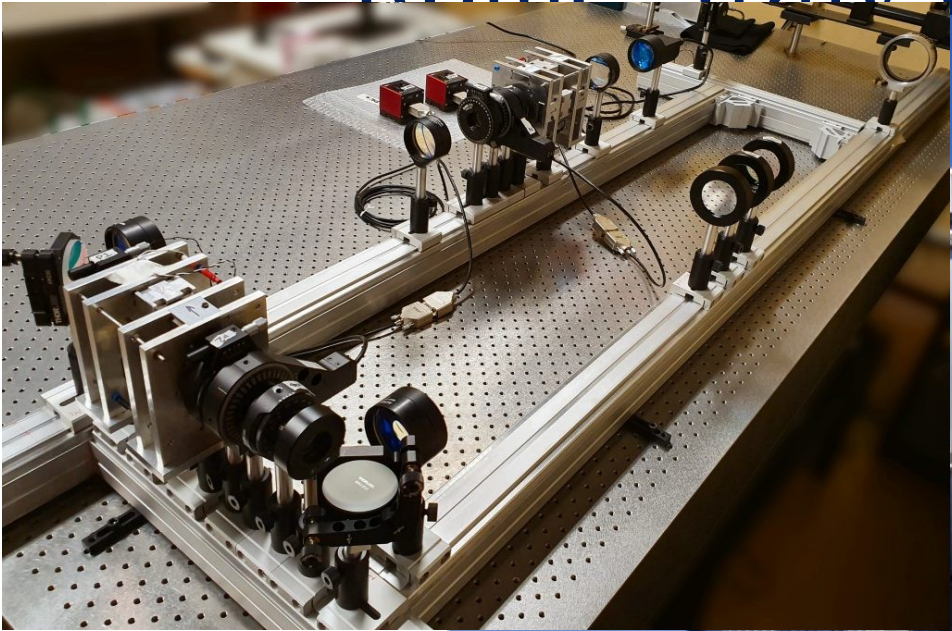
OF
oment

2
Observing:
Na I D2 (589.0 nm) & K I (769.9



Node 2: La Palma, Spain (projected 2024)

Rome, Italy (current)

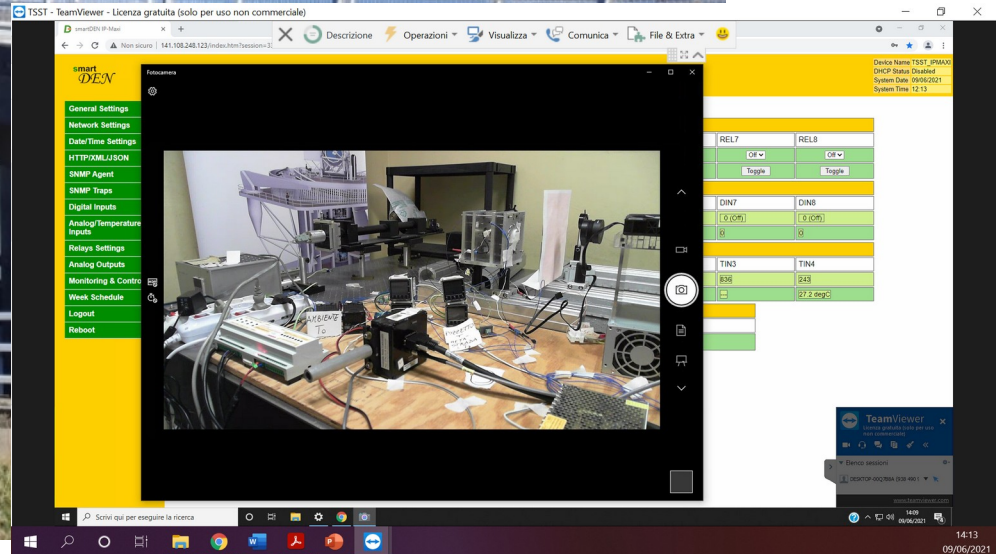


Optical redesign, enclosure construction, and automation

K I 769.9nm MOF channel
H α telescope



SR-127 'QT'



A Commercially Buildable Telescope



EDDYCO.COM



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Adapters



Mounts



Cage Systems



Mounting / Angle Brackets



Optical Rails



Polaris® Line



Mini-Series Optomechanics



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Leverage our Infrastructure



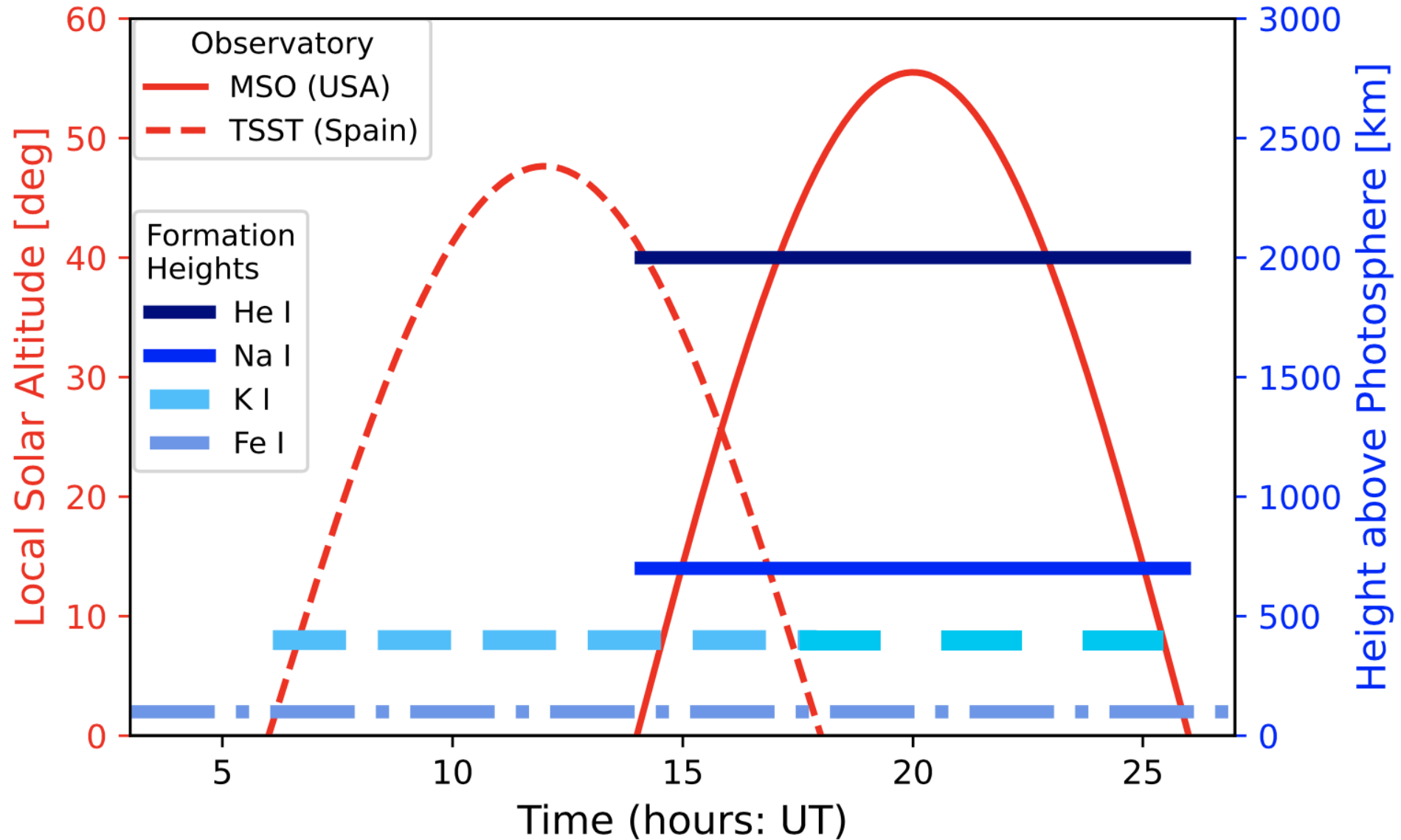
Cerna® Modular Microscopy Platform



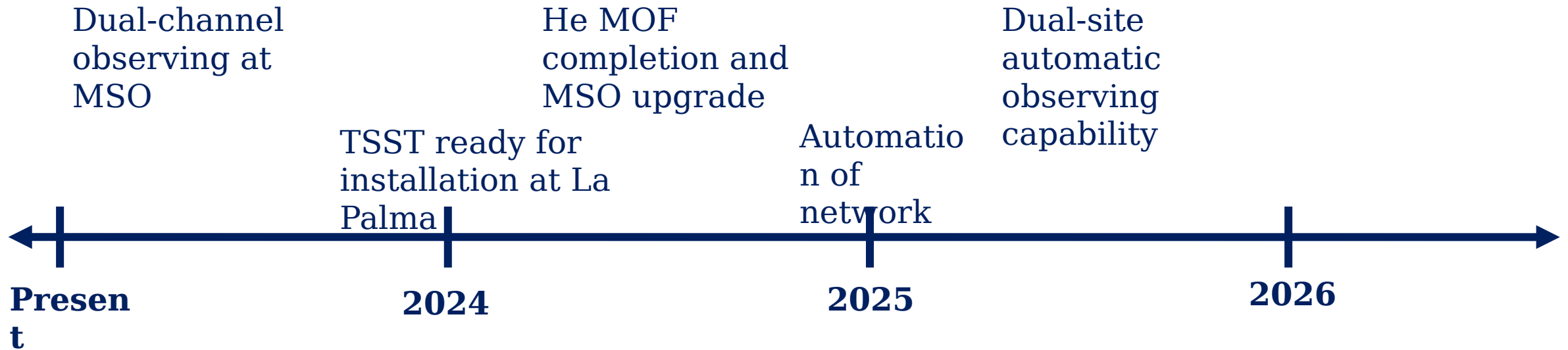
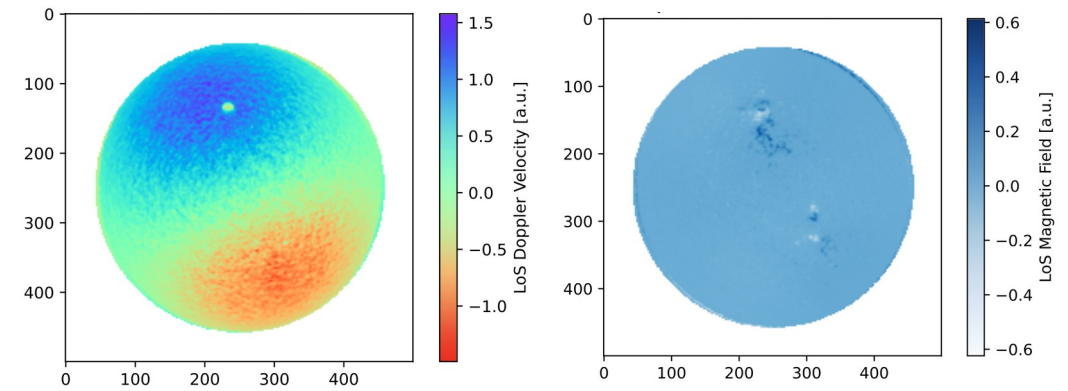
DAYSTAR FILTERS



Synoptic Observing



Timeline



Thank you for your attention! Questions?

Fallon Konow
fkonow1@gsu.edu
fallon.konow@uniroma1.it