

BACHES: the Echelle Spectrograph

for the amateur and professional
astronomer communities



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BACHES first presentation

ESO Messenger Sept. 2007 129, 63

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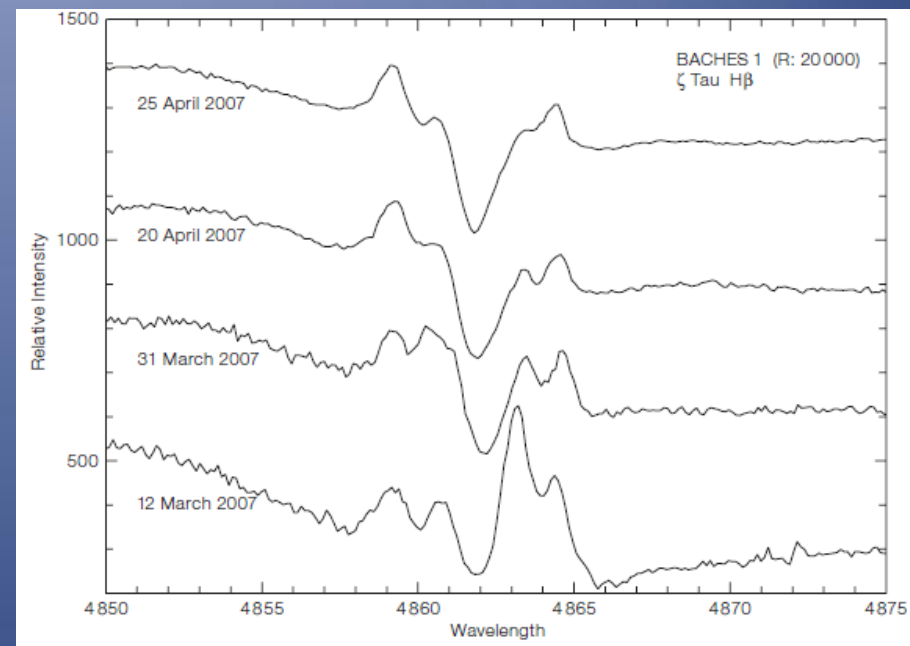
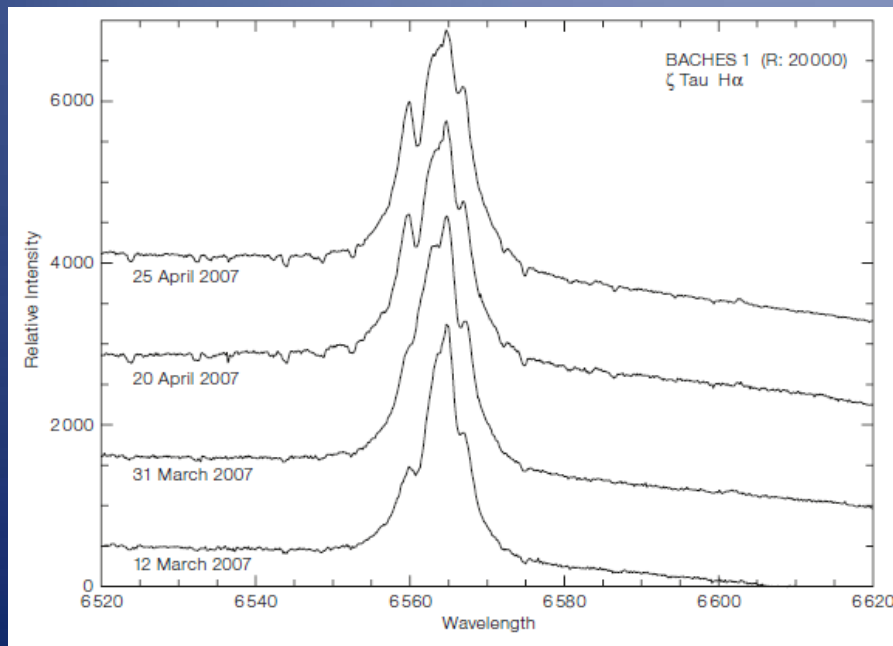


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Evolution of H α and H β lines in the Be star ζ Tau (HD 37202) over 44 days

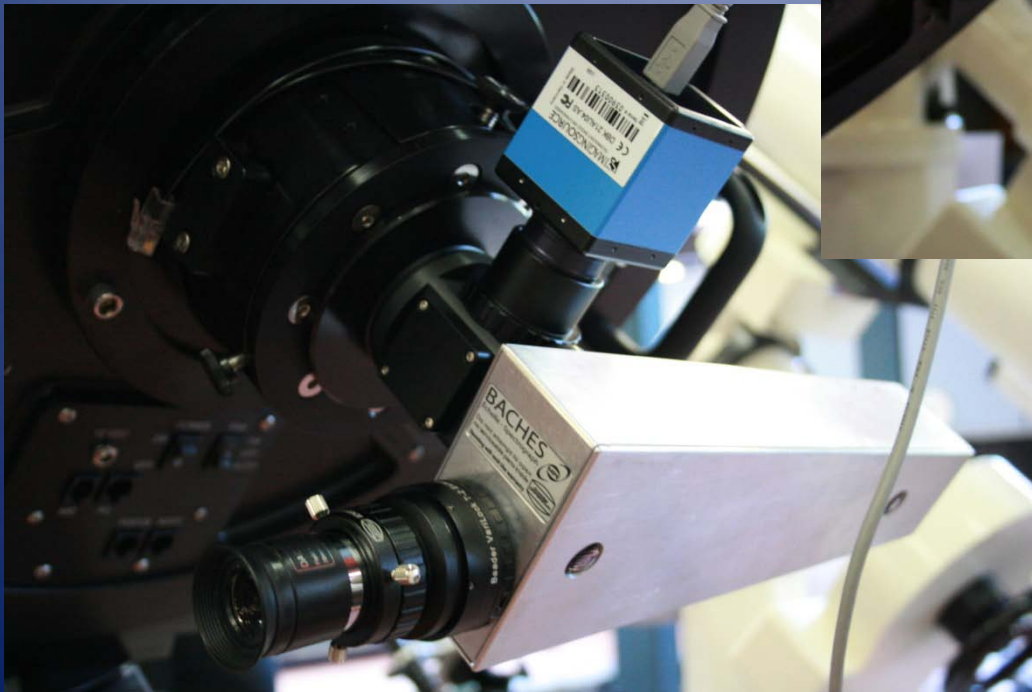
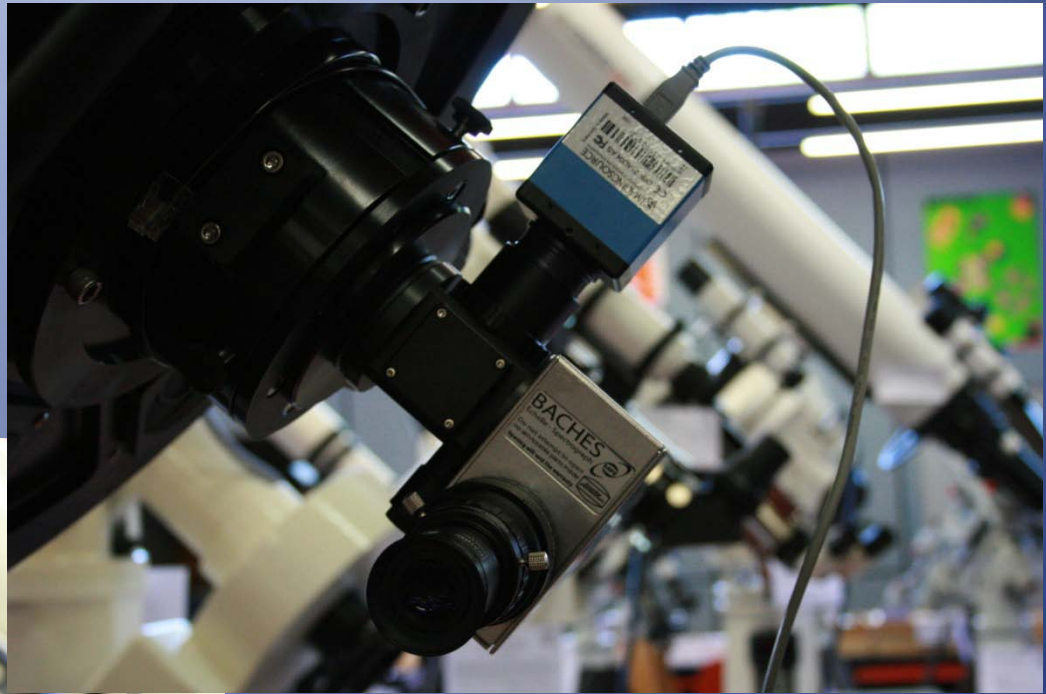
Orbital period 132.97 days



BACHES first commercial Prototype by Baader Planetarium GmbH



BACHES on a telescope



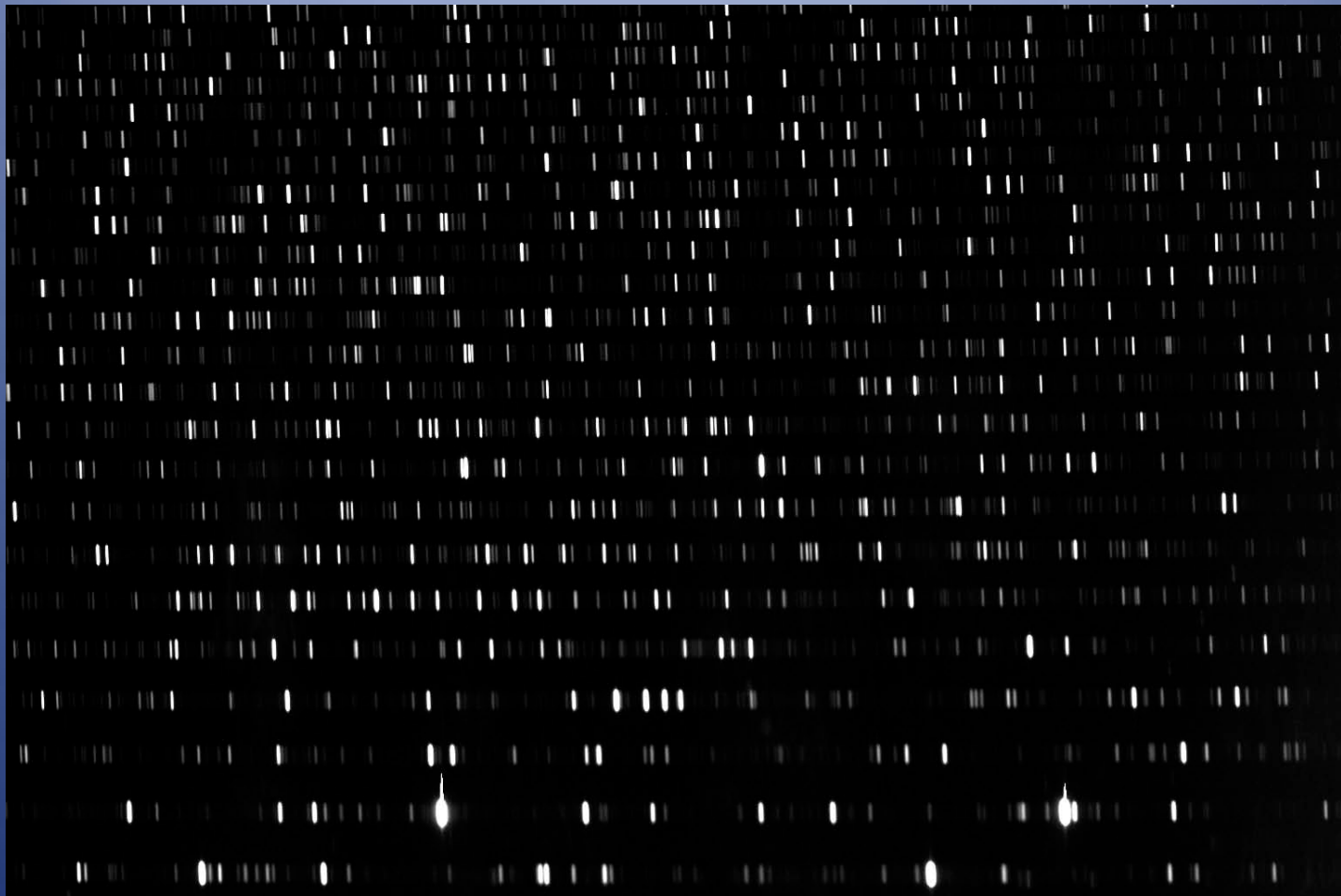
The BACHES Echelle Spectrograph

- Resolution $\lambda/\Delta\lambda = 14000-20000$
- Wavelength range $\lambda = 400 -700$ nm (without gaps)
- 25 μm and 50 μm slits
- Optical peak efficiency 31%
- Compact and Lightweight
- High mechanical stability
- Optimised for KAF-1603E sized Detectors (13.8x9.2mm², 9x9 μm^2 pixels)
- Can be used with DSLRs
- Optimised for 8"-24" f/10 Optics (can be used on larger ones)

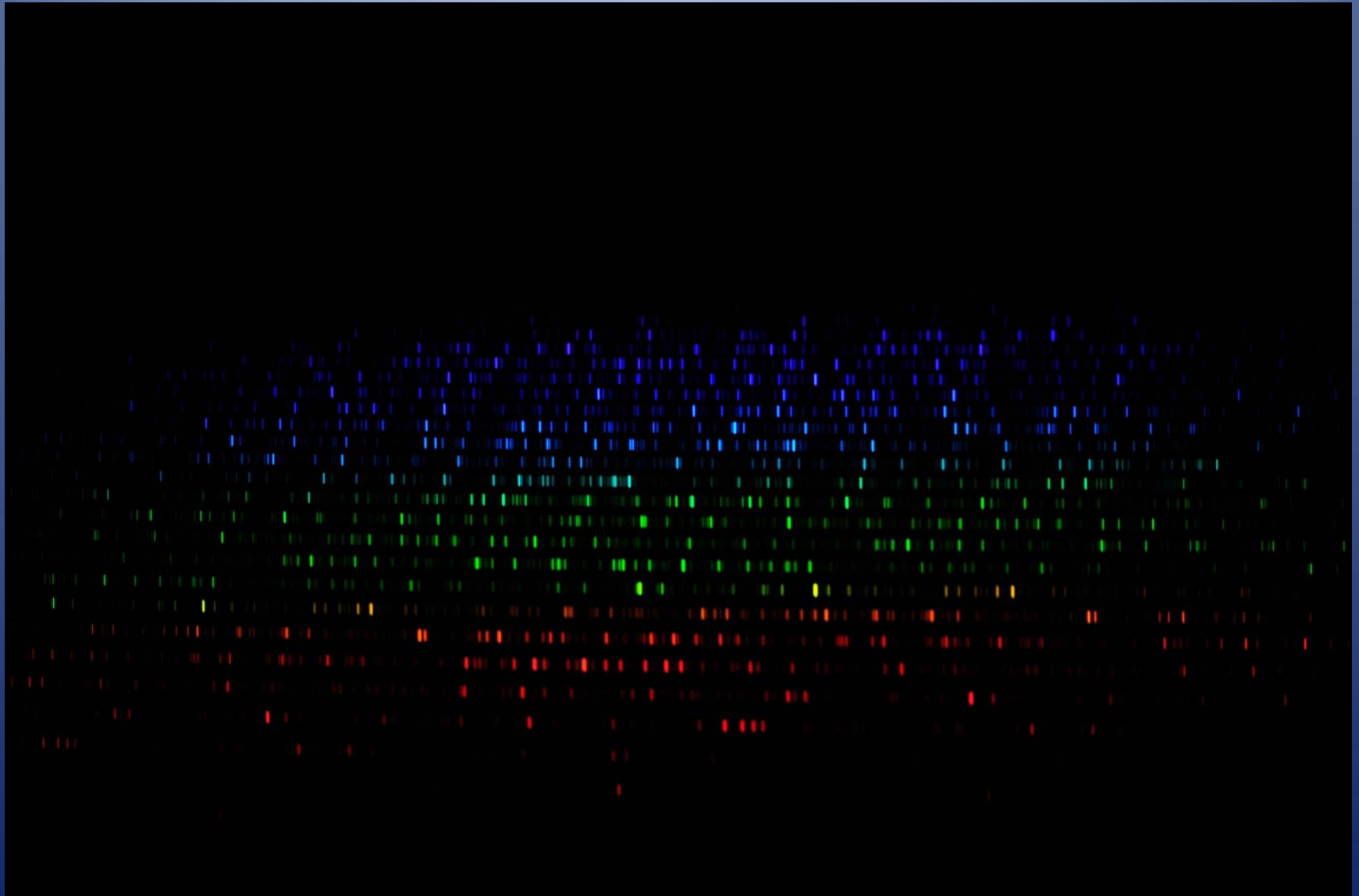
BACHES sample flat field spectrum



BACHES sample ThAr lamp spectrum



ThAr Spektrum with a Nikon D300



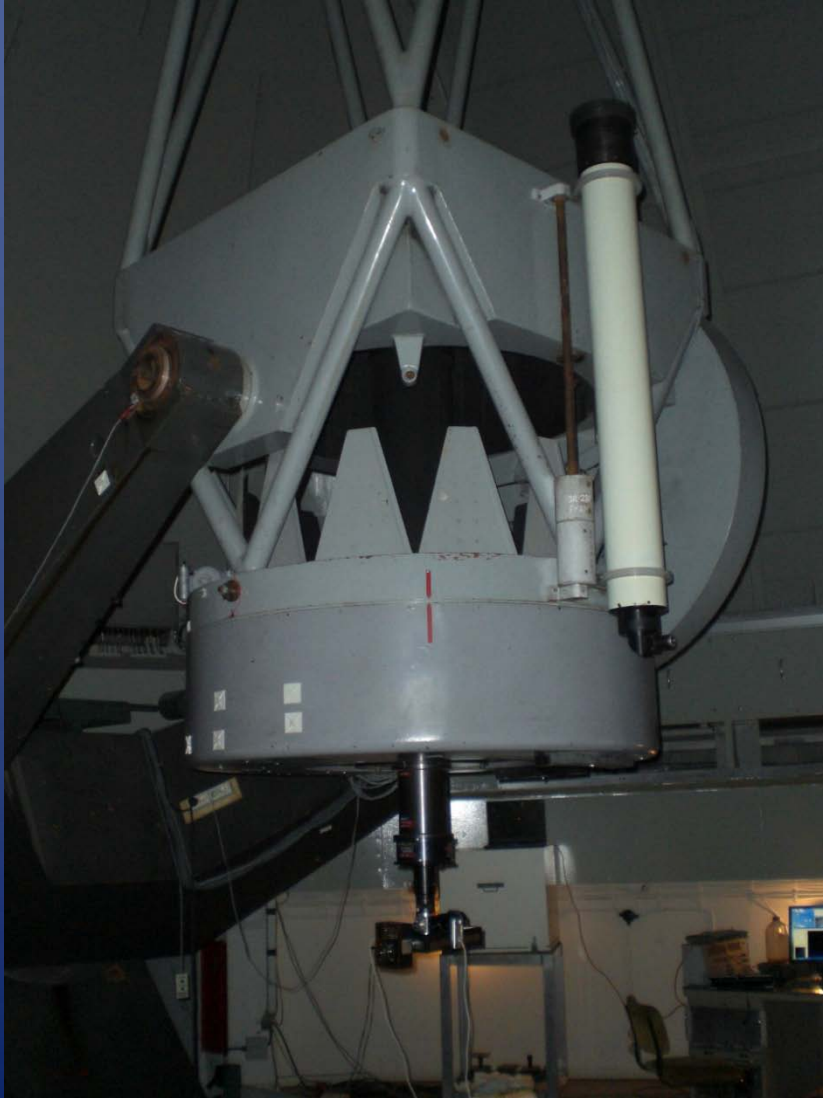
BACHES at the ESO La Silla 1-m Telescope

Part of an official ESO multi-spectrograph and telescope project to characterise the atmospheric water vapor content as part of pre-site testing for the eELT

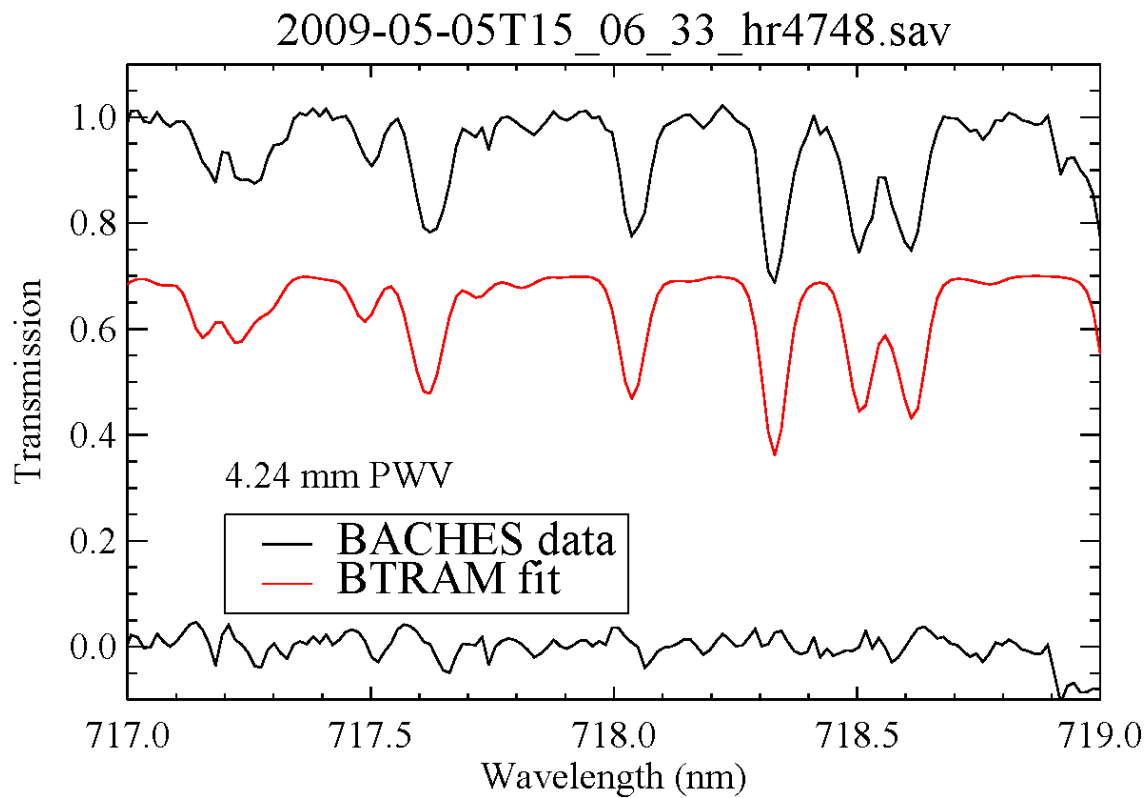
→ BACHES tuned for this project have a spectral resolution of $R=20000$ @ 718 nm

BACHES in action May 2009

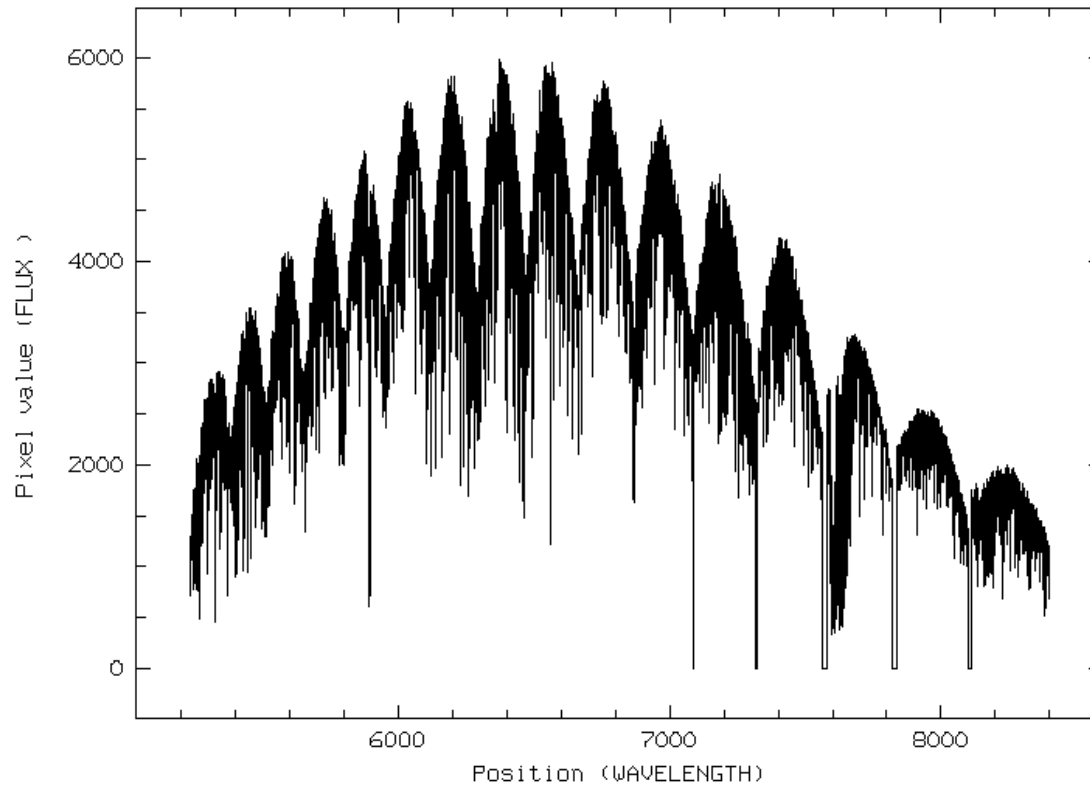
Engineering prototype



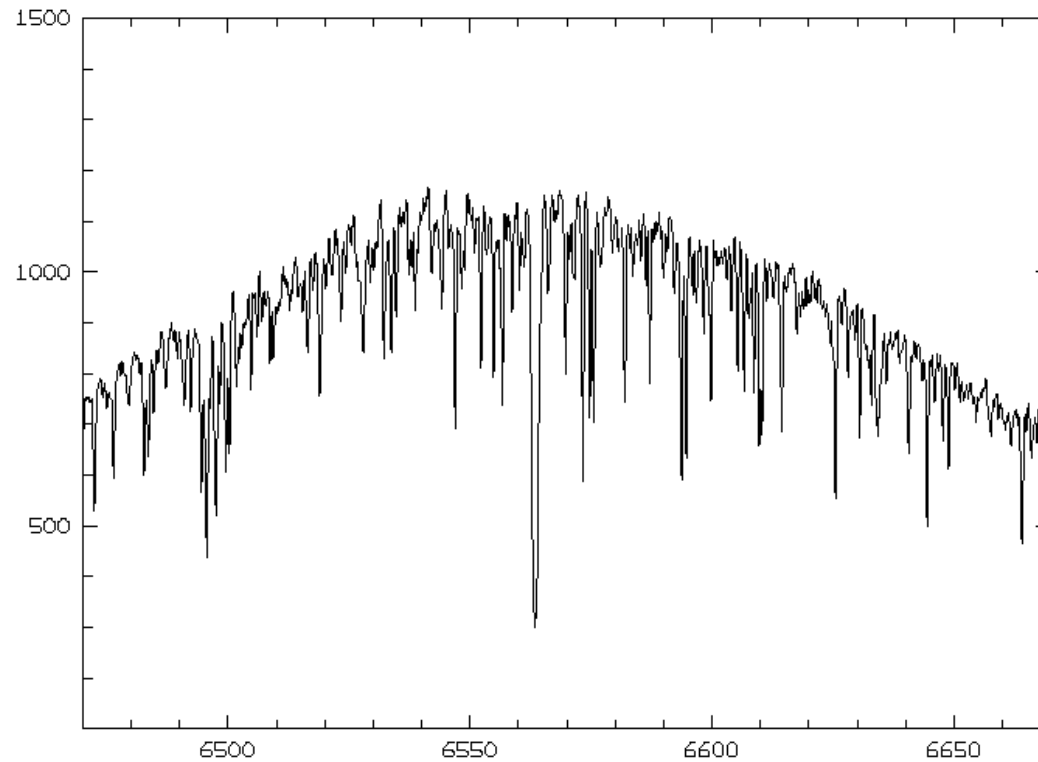
BACHES results



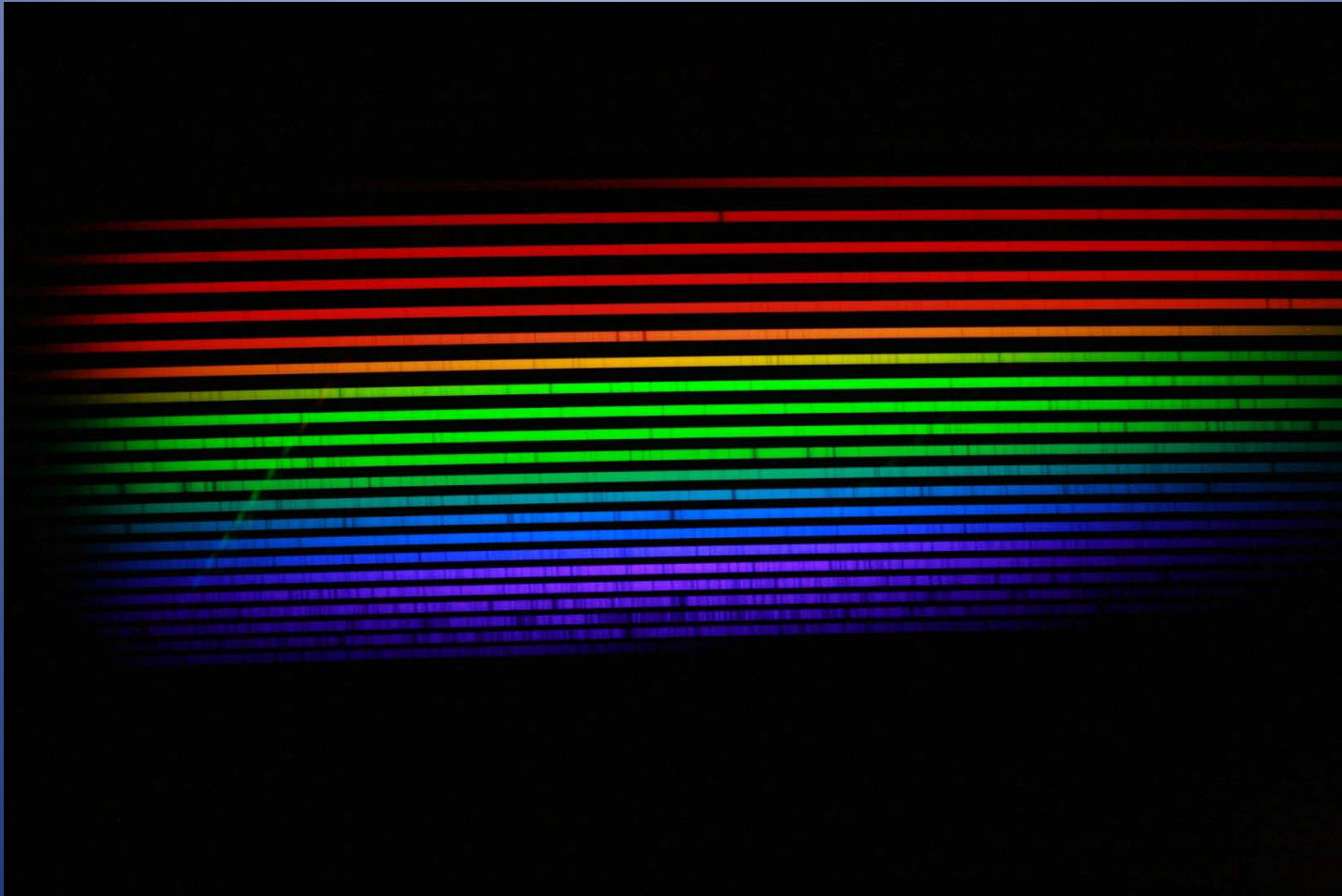
BACHES Red-IR orders

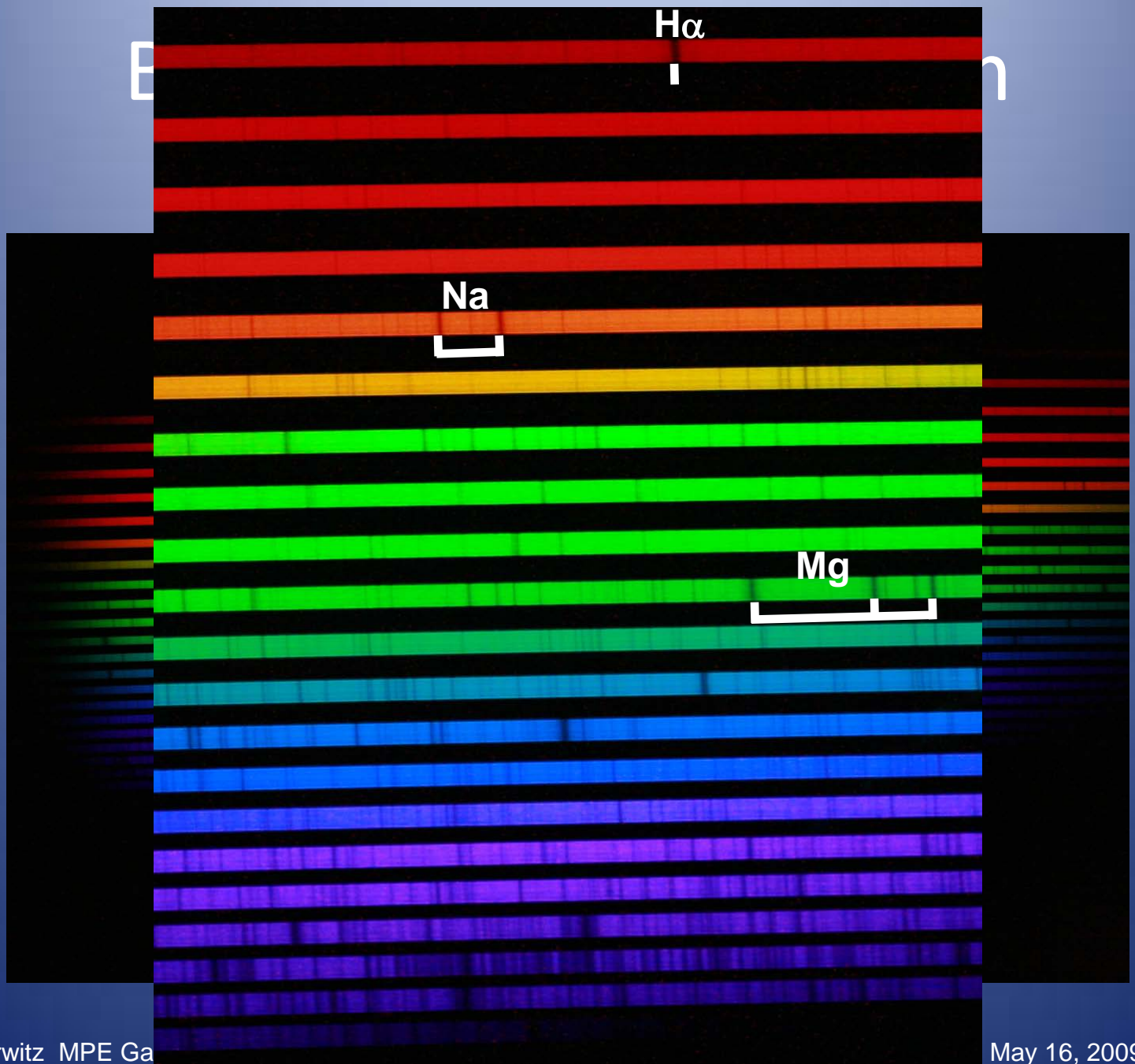


Single Order



BACHES Solar Spectrum with a Canon EOS 400D





BACHES Solar Spectrum with a Canon EOS 400D

