Lecture 29

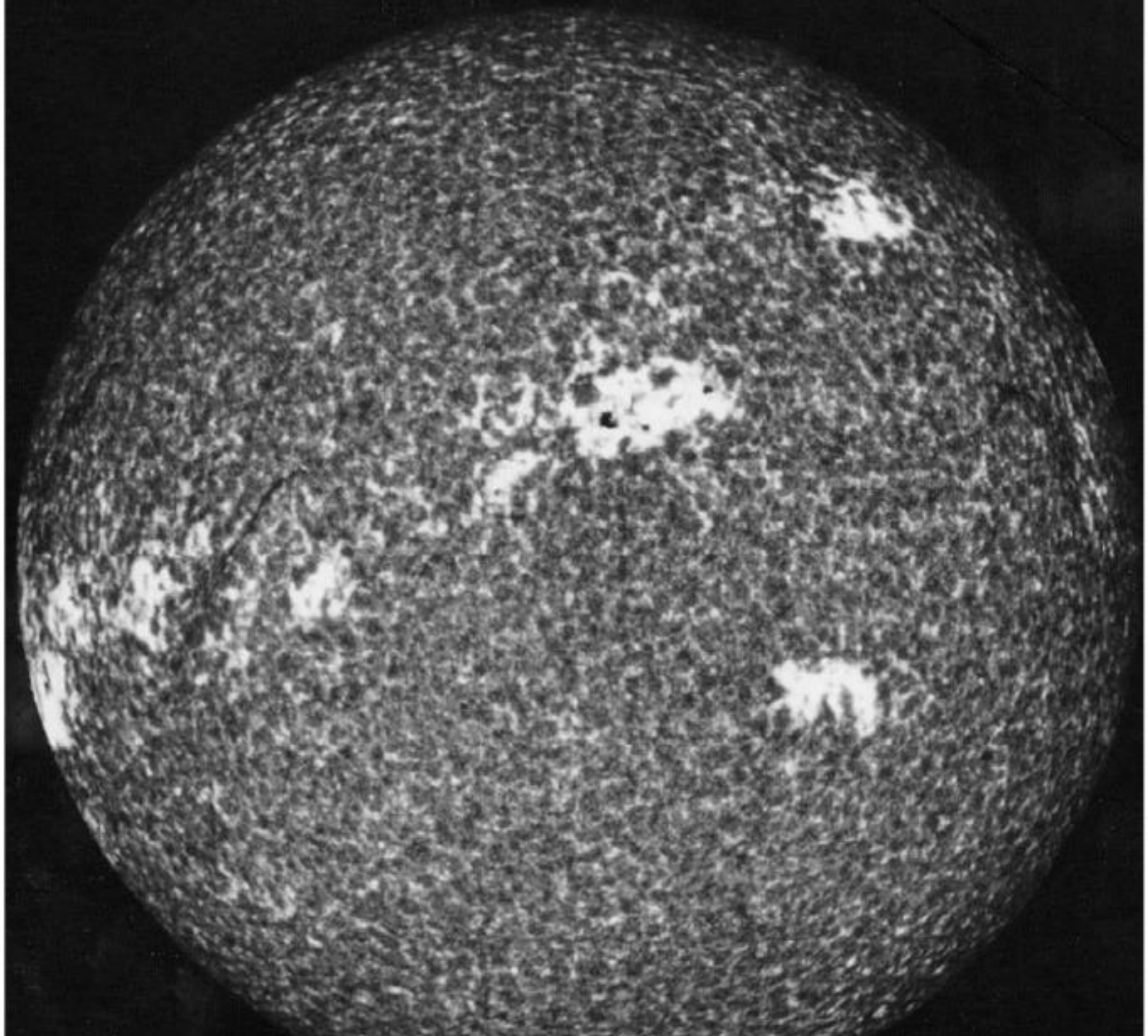
- Review HW2 resit
- Chromosphere
- Corona
- Solar Wind

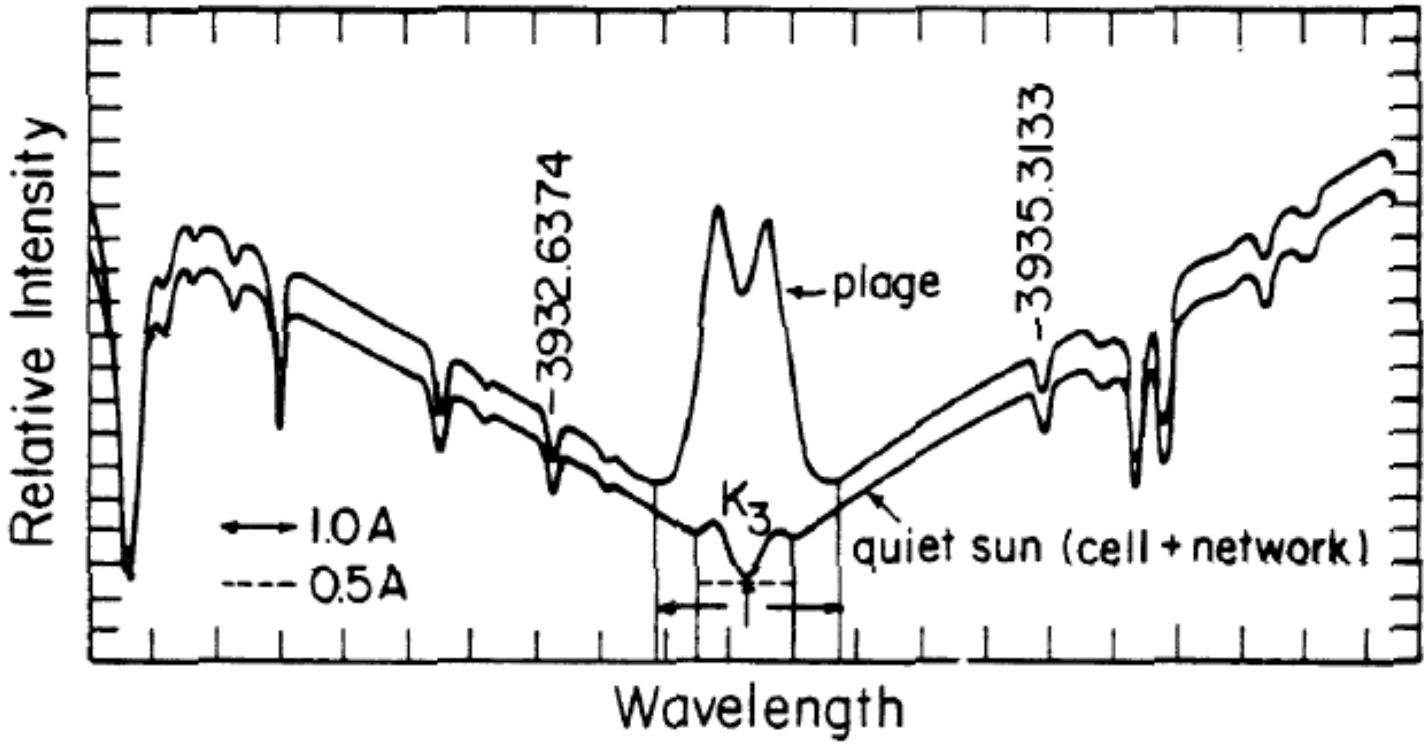
Last time…

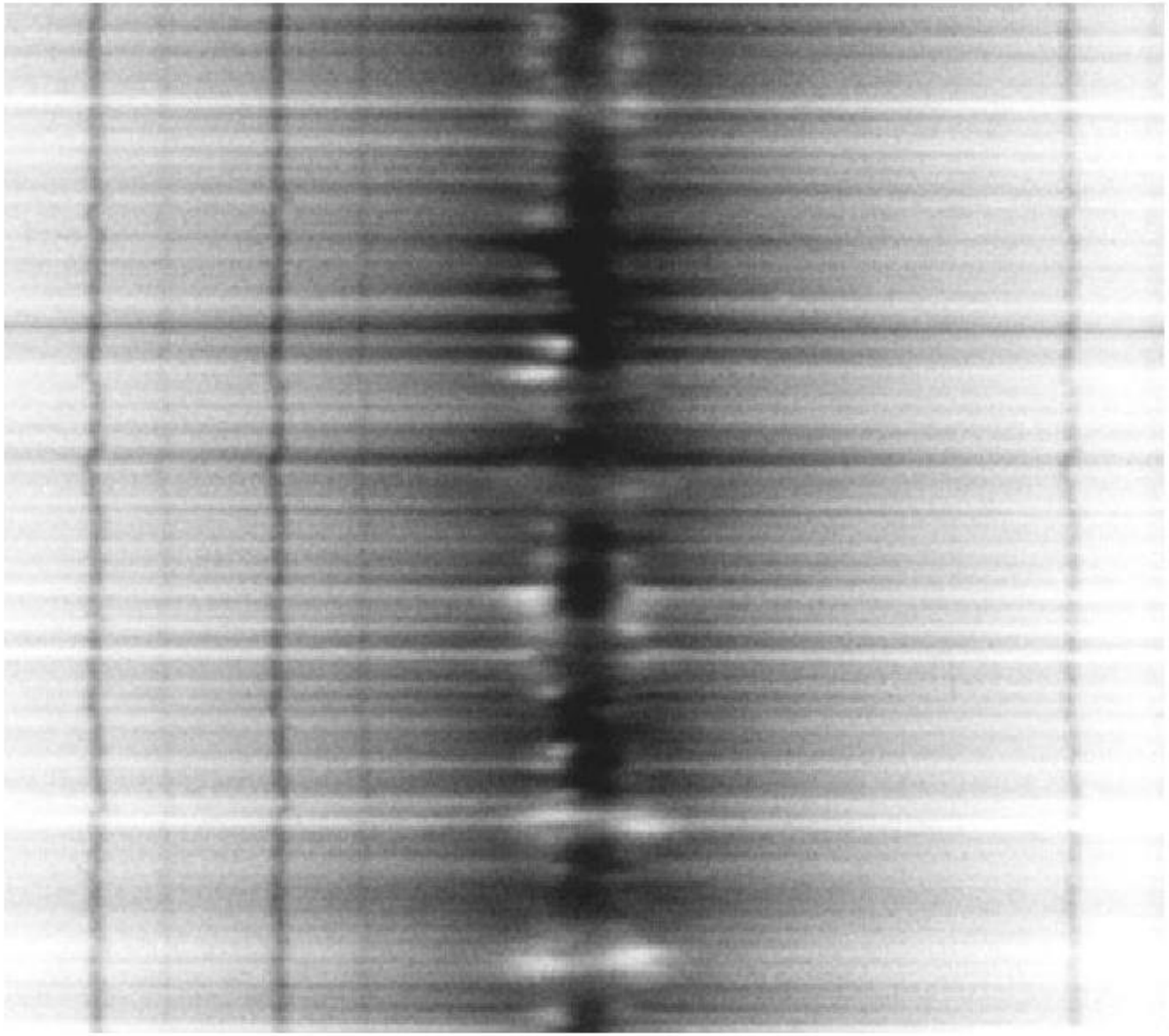
- Eddington approximation
  - gives I proportional to $\tau+2/3$
- Two-stream approximation
  - gives I proportional to $\tau+1$

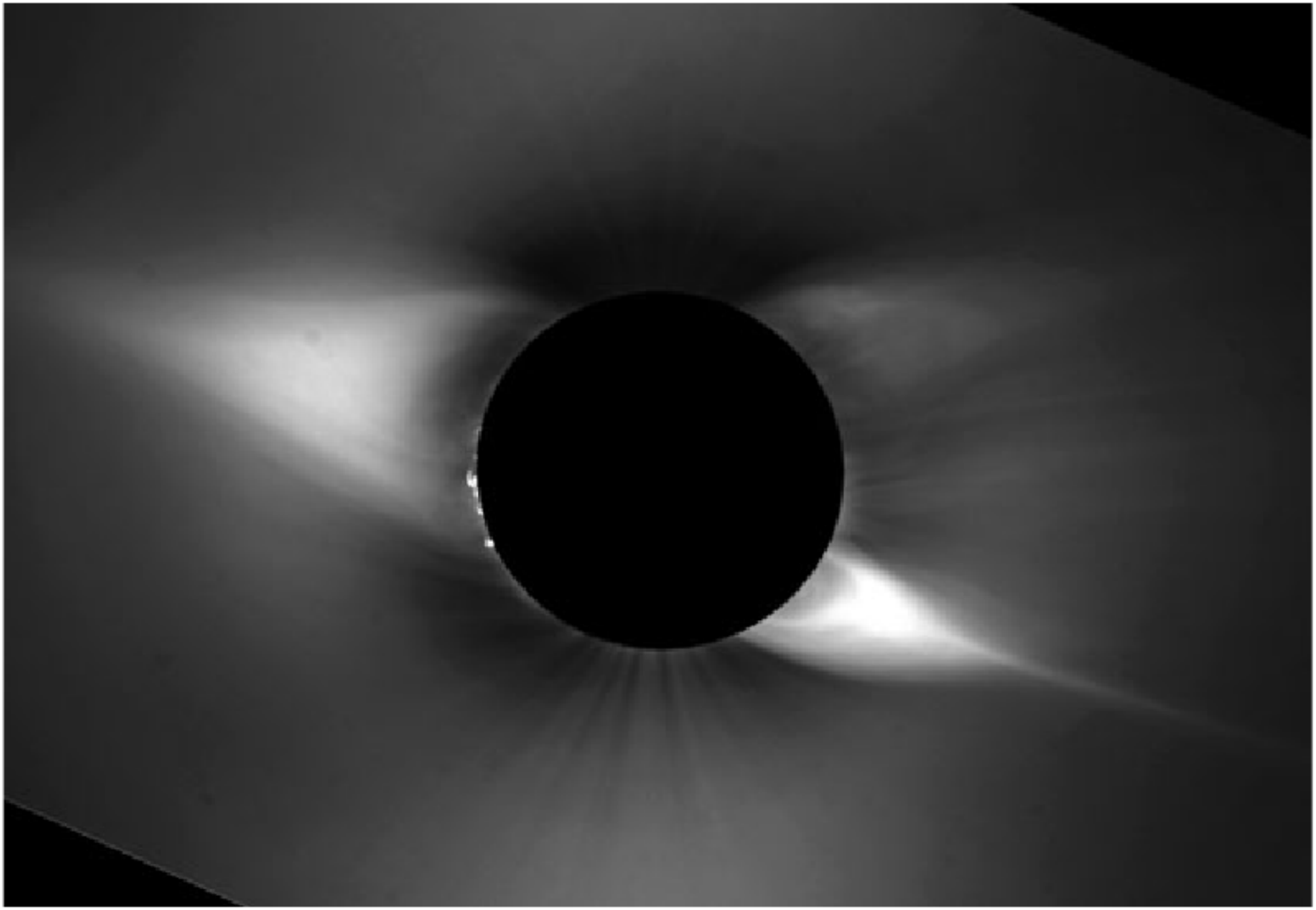
Resit homework 2

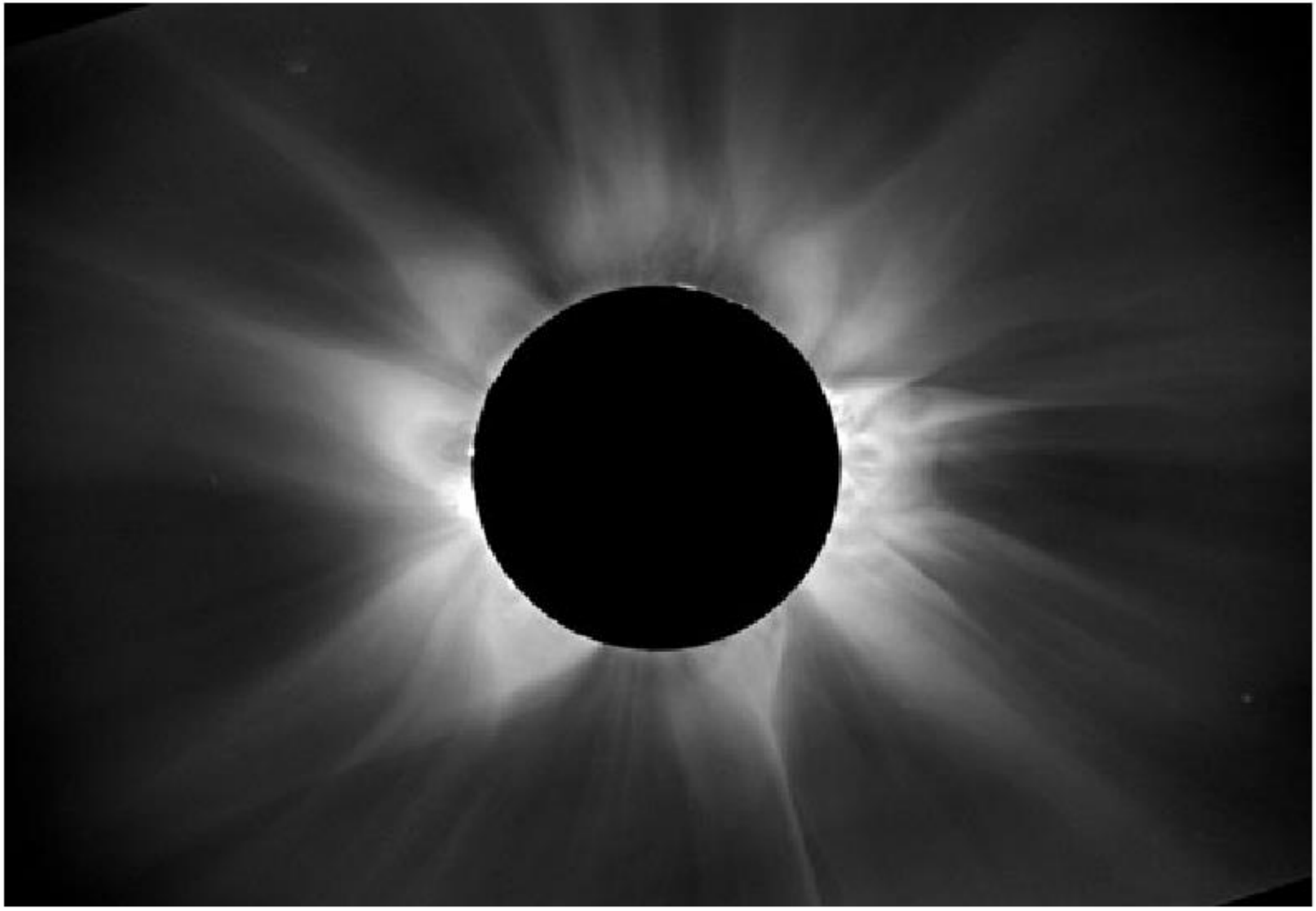
- How to take limits
- Partial derivatives commute
- Wave trains (not perfectly monochromatic)
- AU vs. au
- Working with Kronecker deltas




Relative Intensity
3932.6374
plage
3935.3133
K3
1.0A
0.5A
quiet sun (cell + network)
Wavelength

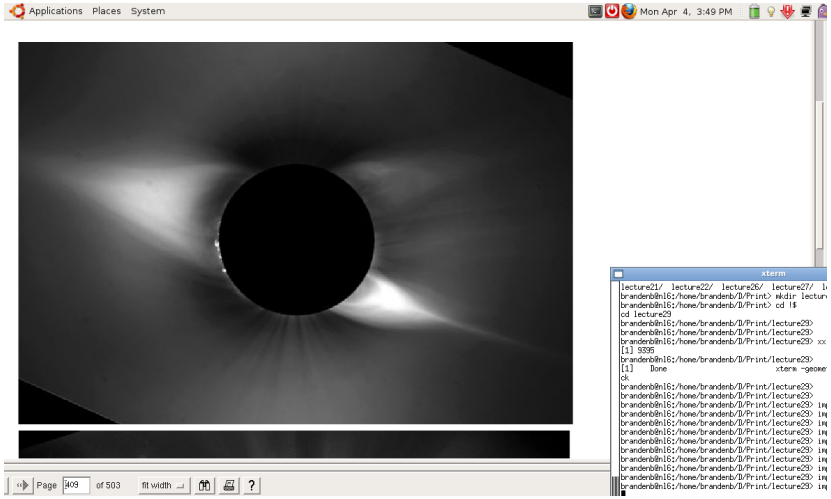




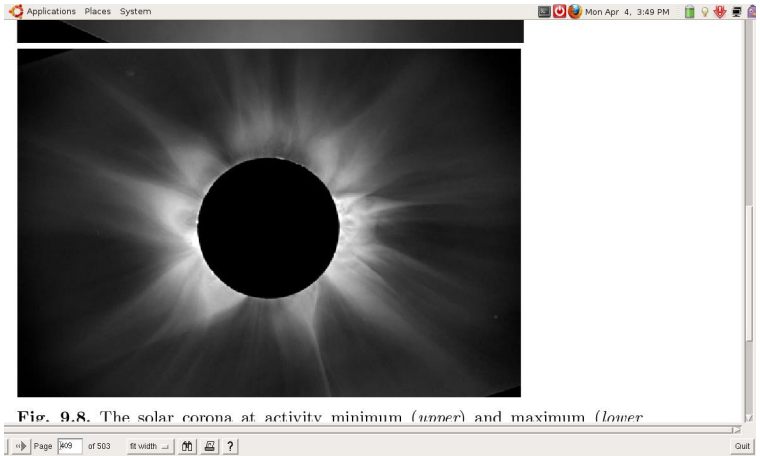


Which one is solar max

A. ?



B. ?



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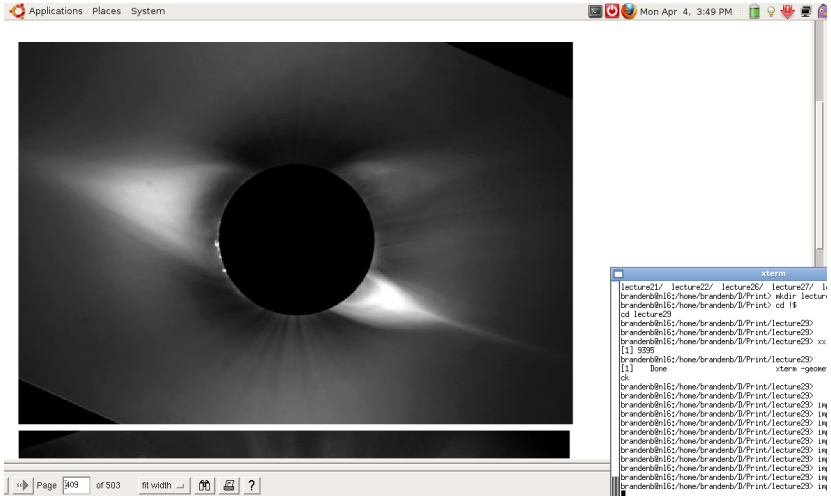
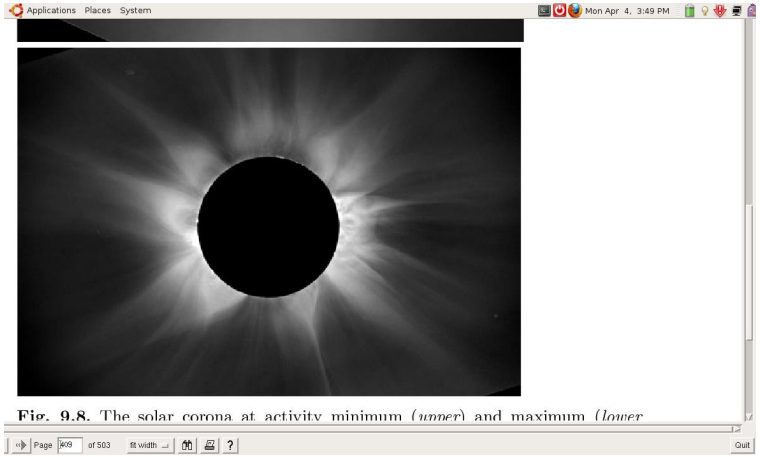


Solar minimum:
Polar plumes

B. ?



Solar Maximum:
More structured
Distributed evenly

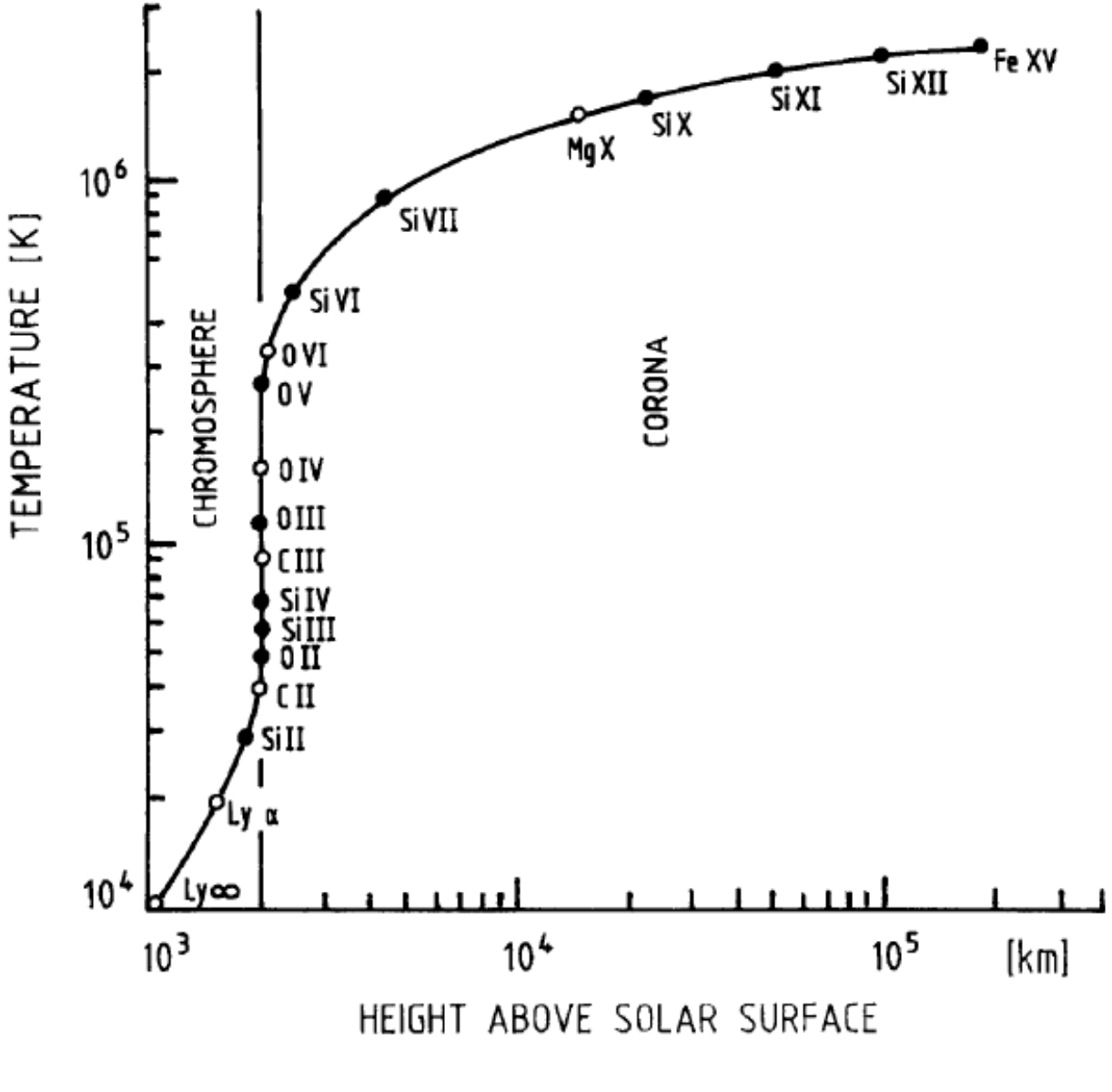
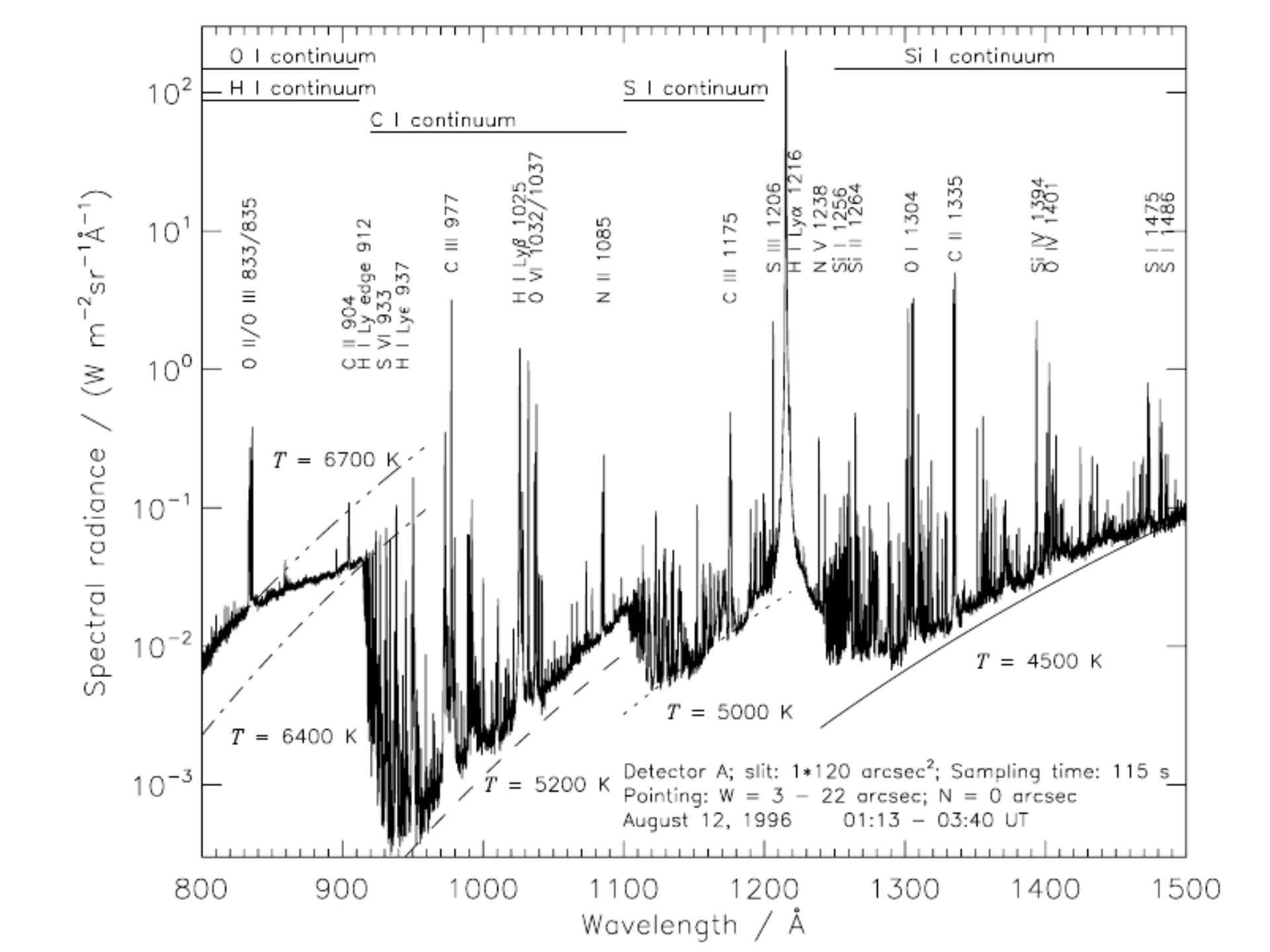


Fig. 9.6. Temperat
a function of h
mean solar mo
sphere. *Dots* in
temperatures of
for some atom
(*open circles*: ob
the Harvard Col
vatory spectron
ter Reeves et al.

Why different lines for different heights?

A. Different abundancies
B. Different production mechanisms
C. Different ionization temperatures
D. All of the above


O I continuum
H I continuum
C I continuum
S I continuum
Si I continuum
O II/O III 833/835
C II 904
H I Ly edge 912
S VI 933
H I Lyε 937
C III 977
H I Lyβ 1025
O VI 1032/1037
N II 1085
C III 1175
S III 1206
H I Lyα 1216
N V 1238
Si I 1256
Si II 1264
O I 1304
C II 1335
Si IV 1394
O IV 1401
S I 1475
S I 1486
T = 6700 K
T = 6400 K
T = 5200 K
T = 5000 K
T = 4500 K
Detector A; slit: 1*120 arcsec²; Sampling time: 115 s
Pointing: W = 3 – 22 arcsec; N = 0 arcsec
August 12, 1996 01:13 – 03:40 UT
Spectral radiance / (W m⁻²sr⁻¹Å⁻¹)
Wavelength / Å

What we learned today

- How to take limits
- Partial derivatives commute
- Wave trains
- Working with Kronecker deltas
- Chromosphere
- Corona
- Solar Wind