

OSCILLATIONS OVER A SUPERGRANULAR CELL OBSERVED WITH SUMER

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Oscillations: a guide to the solar atmosphere

(Carlsson & Stein 1995, 1997)

Chromospheric structure influenced by dynamic events

Studying oscillations with : **SUMER + MDI + TRACE**

Chromosphere to Transition Region

(Judge et al. 2001, Wikstøn et al. 2000)

Importance of the magnetic field topology

(McIntosh et al. 2001)

Observations: 22/9/1996 SUMER

Quiet Sun

Lines:

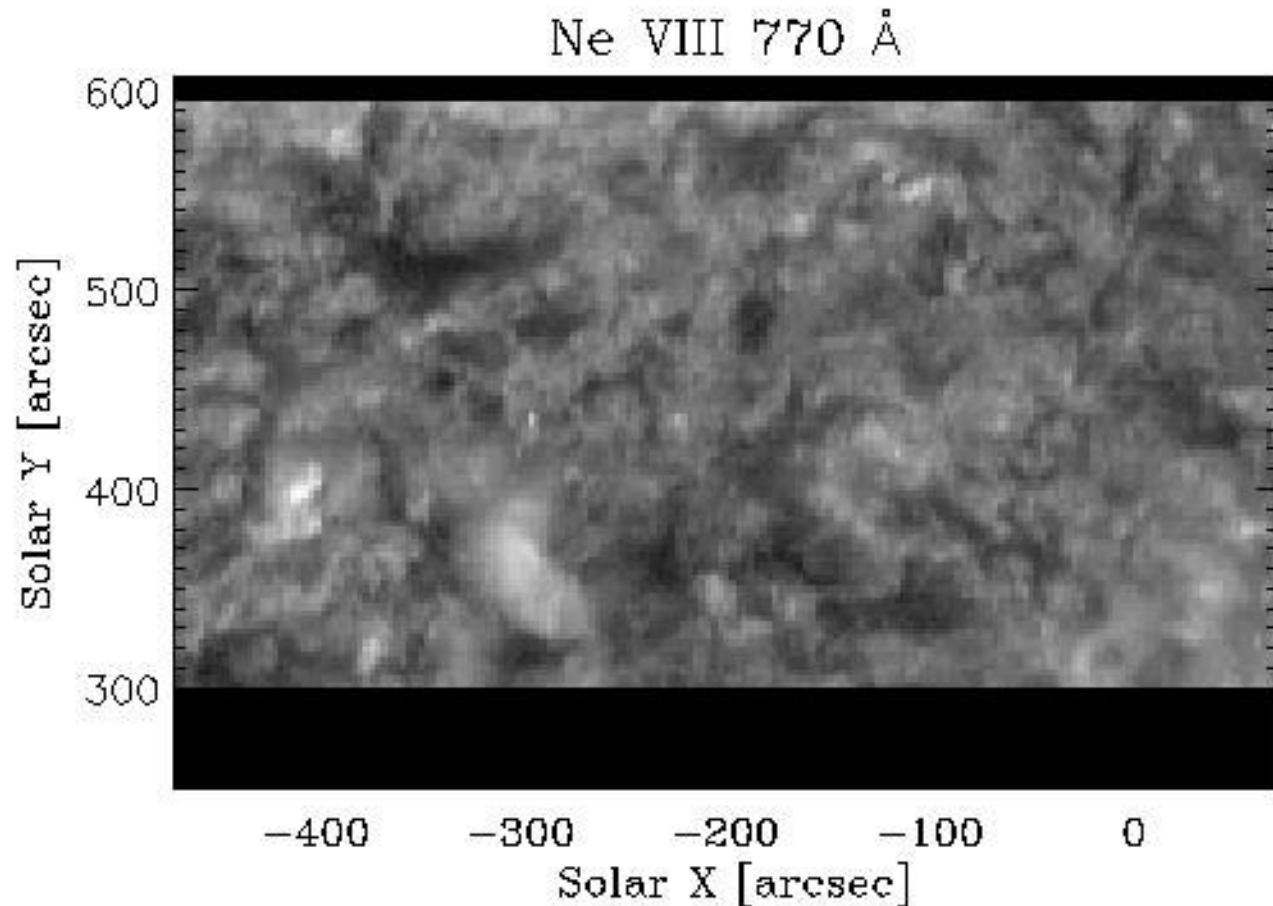
Ne VIII 770Å 6.5×10^5 K

Si II 1533Å 2.5×10^4 K

C IV 1548Å 10^5 K

exp time : 2.5 minutes

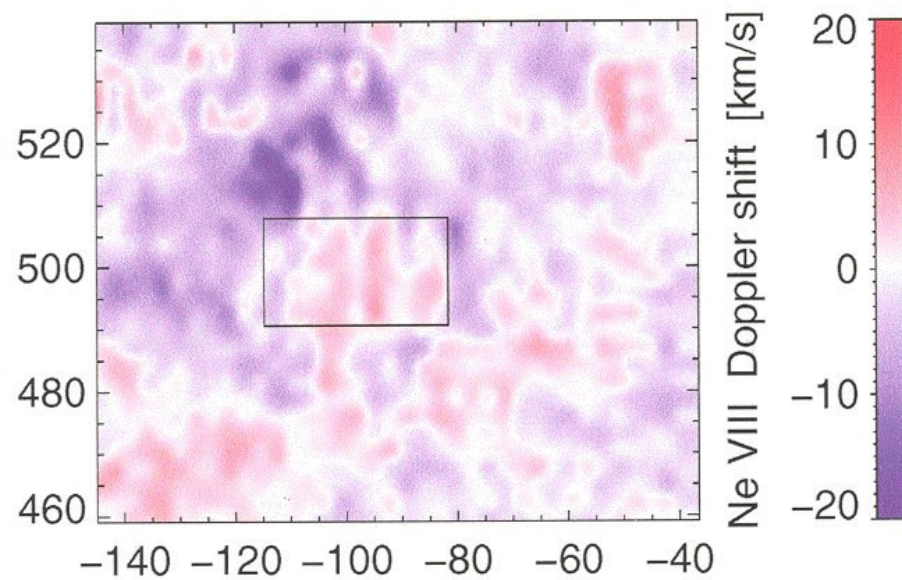
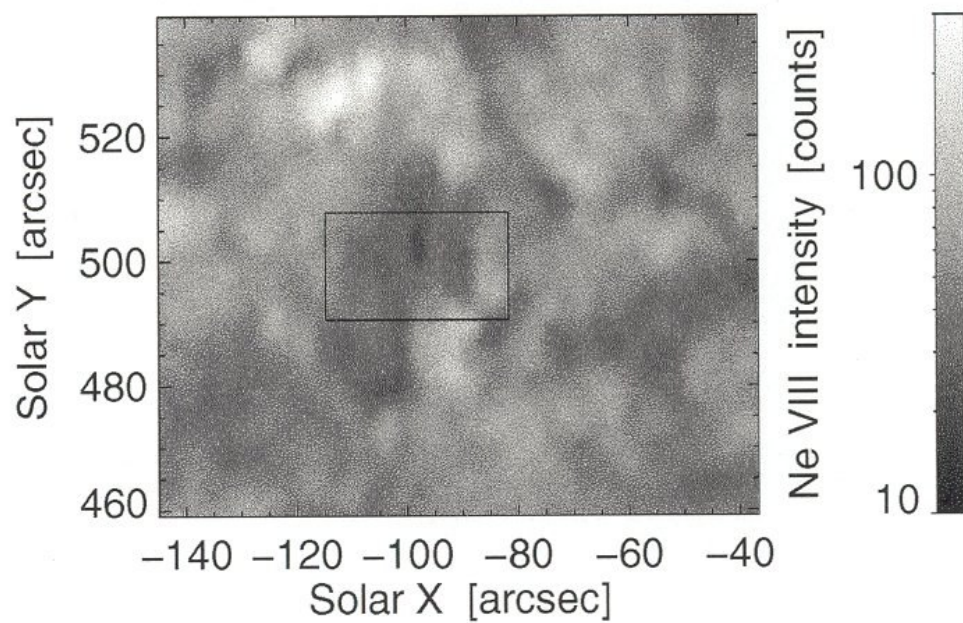
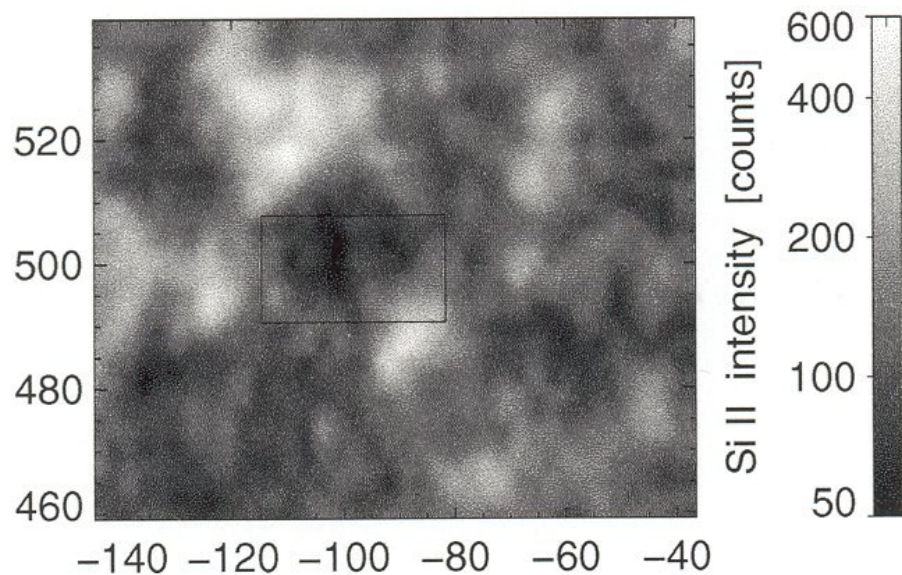
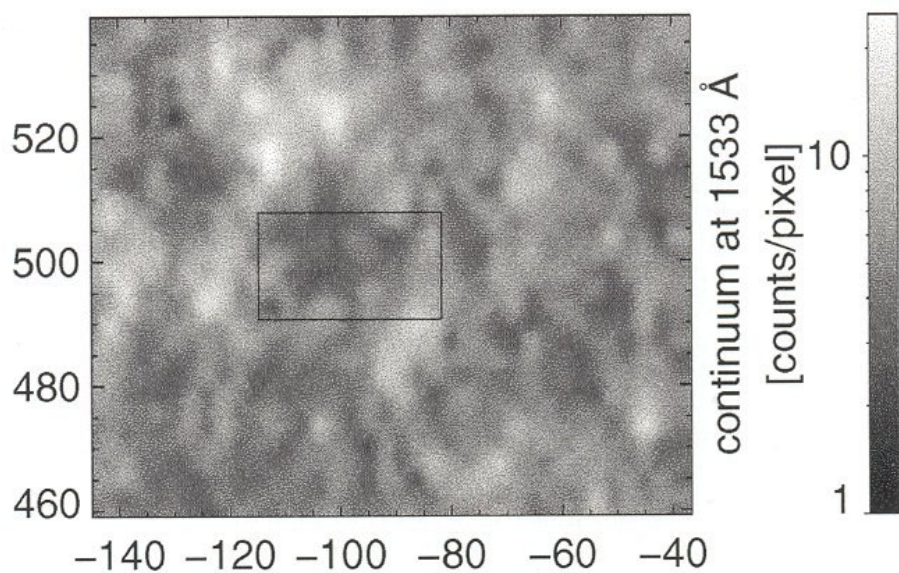
Duration : 7 hours



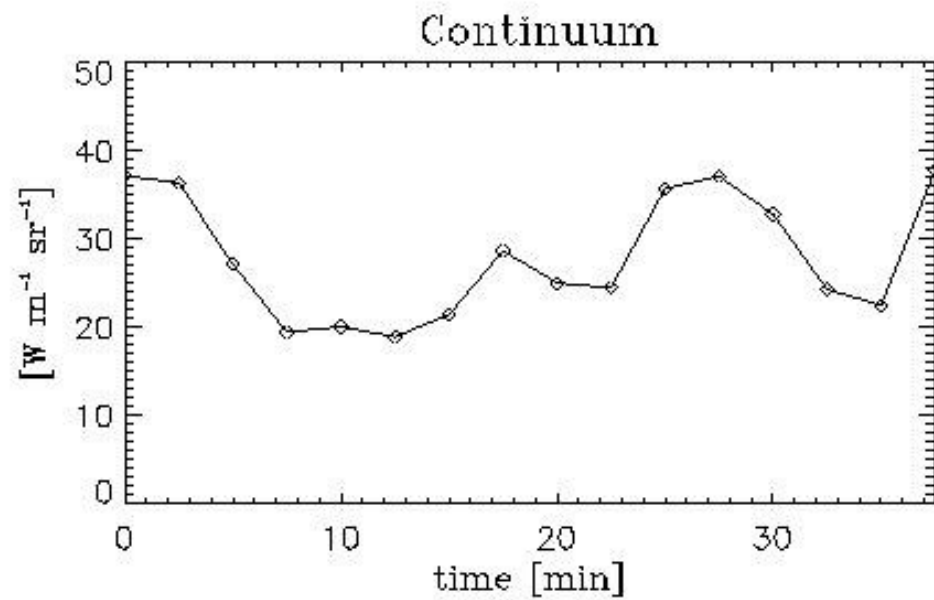
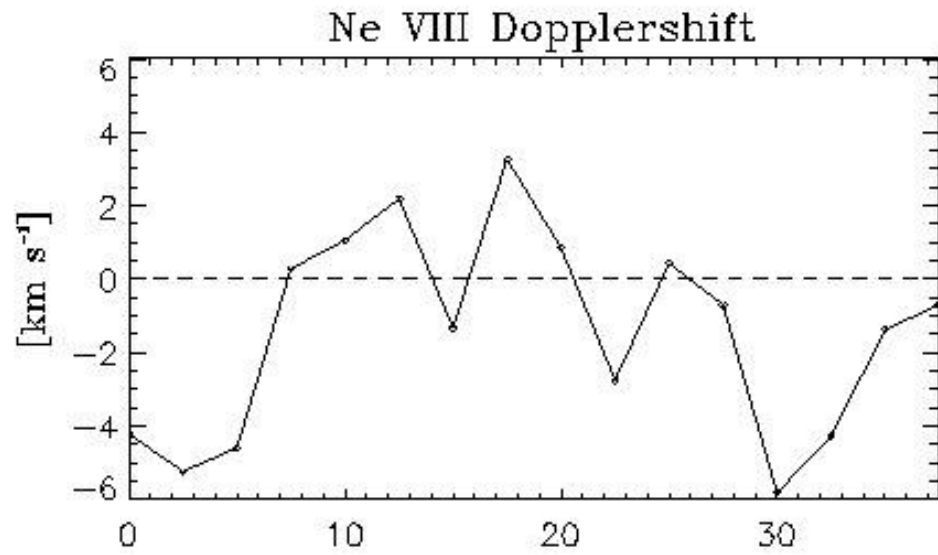
Hassler et al 1999

Peter 2000

Dammasch et al. 1999

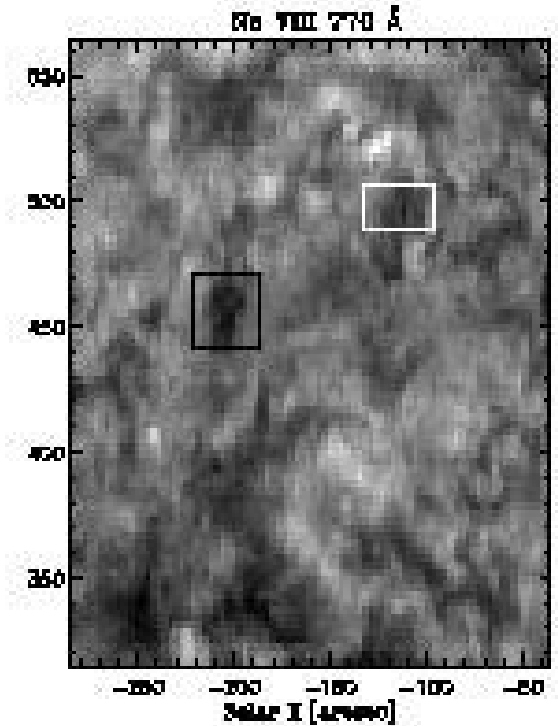
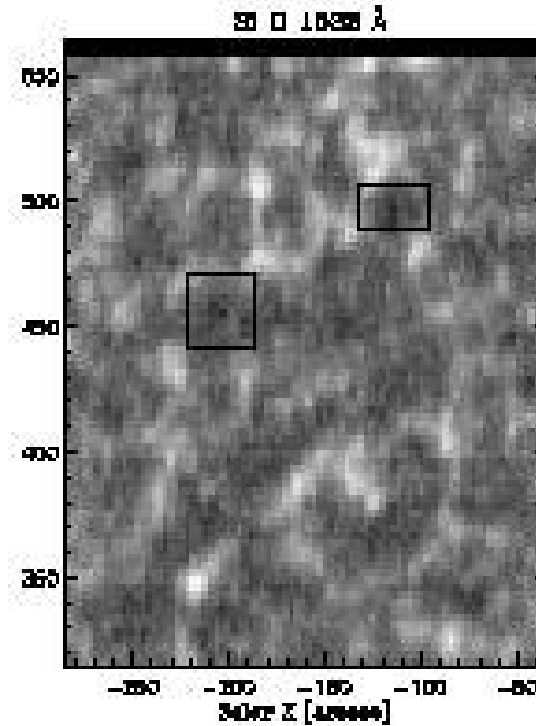
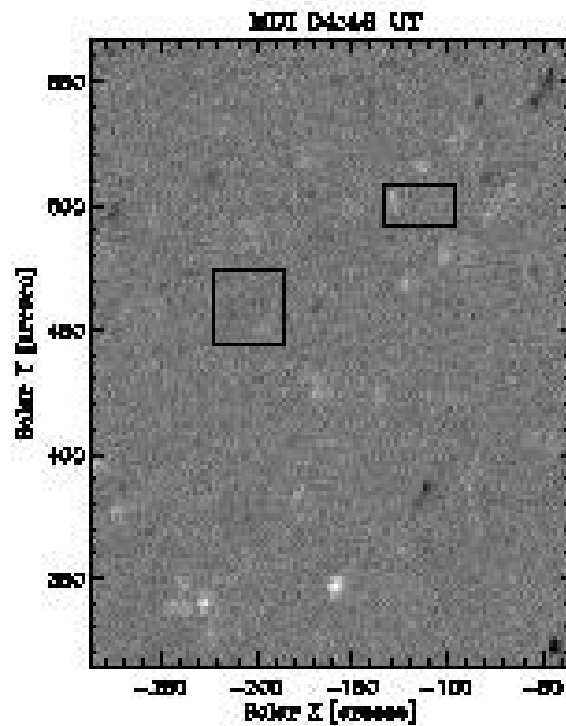


Averaged oscillation
Period ~ 9.4 min

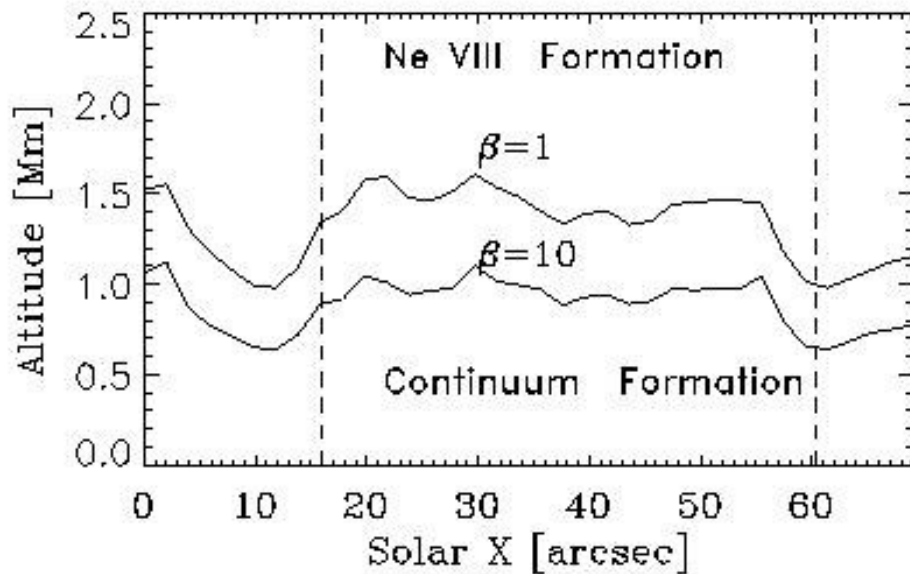
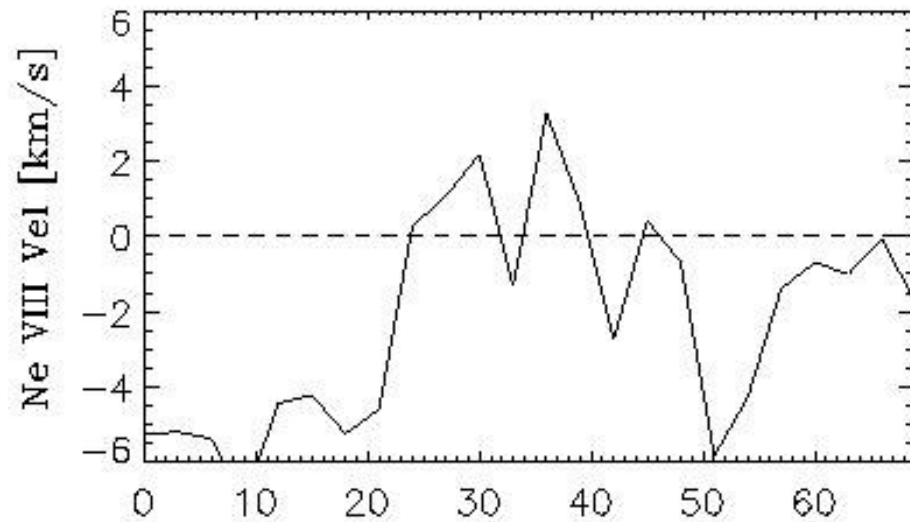


Computation of the $\beta = P_G/P_M$ with height

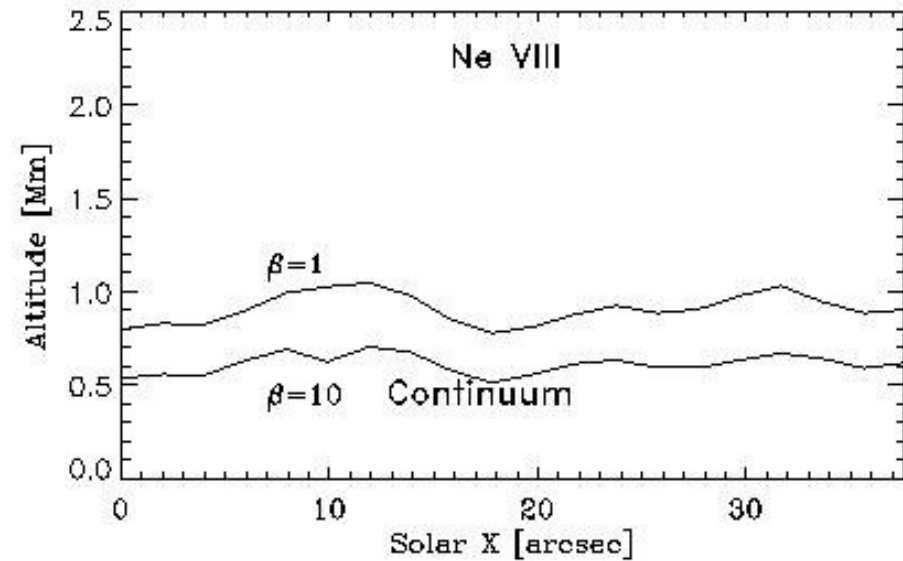
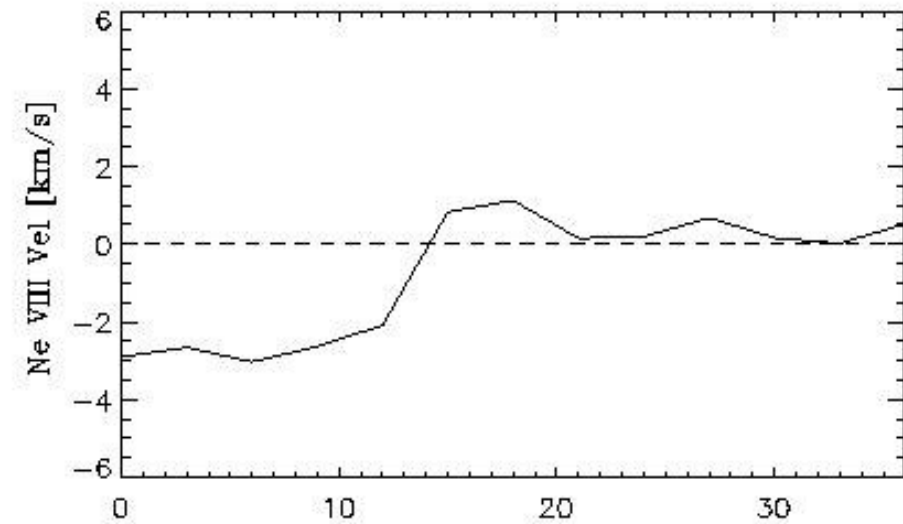
- 1) Co-alignment of MDI magnetogram
- 2) Potential field Extrapolation
- 3) Using of VAL C model for P_G



Oscillating region



Non oscillating region



Conclusions

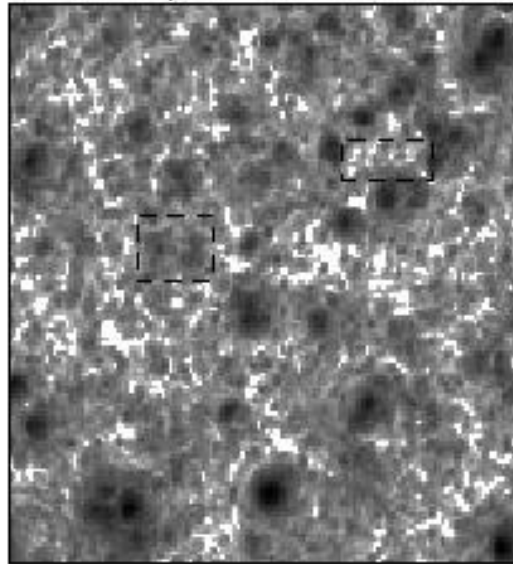
We observed an oscillation at coronal temperatures above a quiet Sun cell

The $\beta = 1$ occurs at larger altitudes than the surrounding atmosphere.

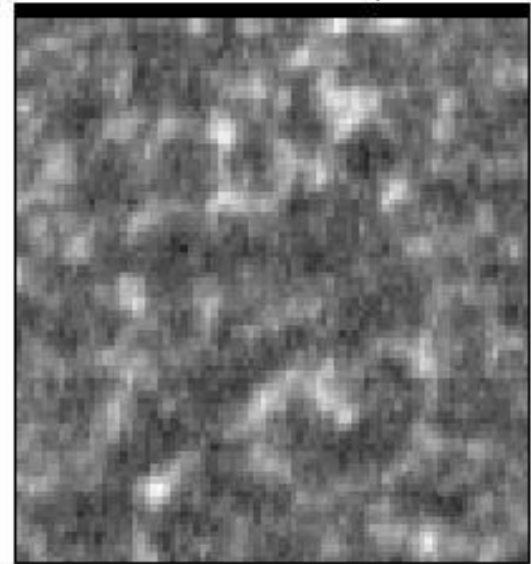
The oscillating cell is particularly dark in Si II and Ne VIII.

Waves in the corona of similar period were observed by UVCS (Morgan et al. 2004)

β altitude



Si II intensity



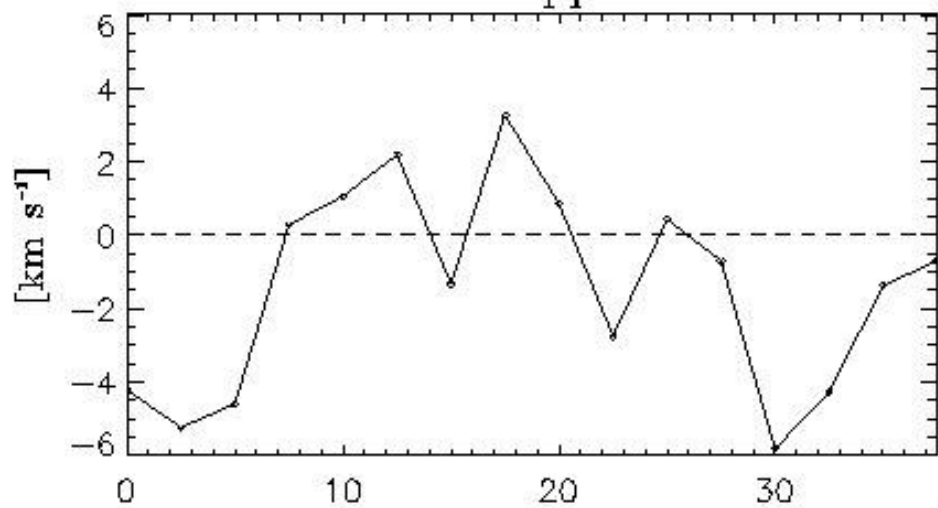
Ne VIII dopplershift



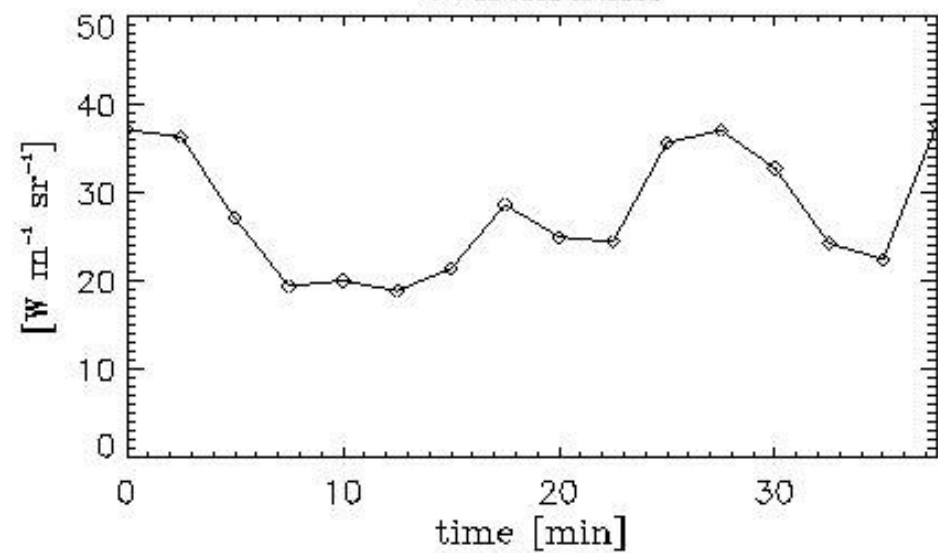
Ne VIII intensity



Ne VIII Dopplershift



Continuum



Ne VIII Dopplershift

