intensity fluctuations. It is found that the line broadenings take place when they are red-shifted. This suggests that Call H and K lines are broaden when the umbral chromosphere falls into its own photosphere.
(4) The fluctuations of the peak intensity ratio are found to be firmly associated with their peak intensity fluctuations. Our correlation study shows that the umbral chromosphere becomes optically thicker when it falls, while it becomes optically thinner when it rises during the oscillations.

Analysis of High Resolution Balmer Line Spectra of a 3B Flare

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We have analyzed time series of Balmer line profiles taken from a 3B flare, appeared in Noaa Region 6891 on the 27th of October, 1992. Each set of the spectra was taken simultaneously for the first 10 minutes of the flare event by multi-channel spectrograph attached to the Solar Tower Telescope of Nanjing University. A total of 22 sets of and lines has been scanned by PDS to make their absolute intensity calibration.

Our analysis shows that the flare has reached its maximum activity in about 1 min. after its emergence. At the maximum the average electron temperature is found to be 35000 K and the red-shifted radial velocity reached to 40km/sec. After the flare maximum the line intensities, radial and turbulent velocities were declined gradually with time. The radial and turbulent velocity curves obtained from profiles are presented along with their integrated intensity curves. finally, their physical implications will be discussed.

CCD photometry of δ Scuti variables in the open clusters : V650 Tau in Pleiades

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Real-time CCD differential photometry was carried out for a Scuti variable V650 Tau with 60cm reflector in SNU observatory. Total 3751 B differential magnitudes were taken on 14 nights between November and December 1993(about 81 hours of observations). We obtained very precise data($\sigma_m \leq 0.005^m$), because the comparison, check and variable stars were observed simultaneously(i.e. three stars are located in the same CCD field).

By applying the Fourier method and the multiple-frequency linear least square technique, we derived five frequencies of f_1=17.0441 c/d, f_2=18.4952 c/d, f_3=25.2950 c/d, f_4=28.7725 c/d, f_5=32.6328 c/d. We calculated the pulsational constant (day) for each frequencies from the observed parameters(T_{eff}, $Log\ g$, M_{bol}) and estimated the pulsational modes comparing these values with the theoretical ones of Fitch(1981). Our result shows that V650 Tau pulsates in