Strong enhancement of metallic oxides has been found in the umbral regions, while hydrides are enhanced to a lesser degree. The carbon-containing diatomic molecules such as CH, C_2 and CN are enhanced greater in the penumbra than in the photosphere or umbrae. Since any departure from these trends would suggest inhomogeneities in the penumbral region, simultaneous observations of spectra of selected lines of CH, C_2 and CN as well as TiO and MgH with the slit extending across umbral and penumbral regions appear to be highly desirable to explore the penumbral inhomogeneities.

EFFECT OF MASS LOSS ON THE EVOLUTIONARY TRACKS OF STEIN'S PRE-MAIN SEQUENCE STARS

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The evolutionary tracks of pre-main sequence stars in quasihydrostic equilium have been computed by using Stein's linear model, which are losing mass at the rate of $dM/dt = -K(RL/GM)$. It is found that the effect of mass loss on the evolutionary tracks shows up sharply as the mass loss parameter K becomes greater than 10^{-2}. Recent Hutching's observations indicate that the appropriate value of K should be smaller than 10^{-3}.

EFFECTS OF METAL ABUNDANCES ON THE ELECTRON TEMPERATURE IN H II REGIONS

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In order to assess the importance of trace elements as cooling agents in H II regions, we have considered thermal and photoionization equilibria under various conditions. The differences in electron temperature due to central star and density are shown to be small in comparison to those due to changes in heavy element abundances. It is concluded that the metal abundance is the most important factor in the determination of electron temperatures in H II regions.