We present as evidence to support our assumption of detailed balancing the monochromatic optical depth at the line centers of the lower Balmer and Lyman lines as a function of Rosseland optical depth, τ_R . In all cases, monochromatic depth 50 is reached at $\tau_R < 5 \times 10^{-3}$. We conclude that our assumptions are realistic in the region where the continuum and moderately strong lines are formed.

The departures from LTE cause the stellar effective temperature scale to be lowered by as much as 2000°K at B6V to as little as 500°K at A0V. The choice of model dictated by the non-LTE atmospheres also significantly affects the calculation of stellar abundances as shown by an analysis of Vega and Sirius.

A New Model for Solar Filaments. P. A. STURROCK AND E. WOODBURY, *Institute for Plasma Research, Stanford University*.—Filaments are known to run along the "neutral line" which divides regions of the photosphere of opposite magnetic polarity. However, this characteristic alone does not account for the properties of filaments.

It is suggested that filaments (quiescent prominences) result from slippage of the photosphere, and that such slippage occurs preferentially along a neutral line. The resulting magnetic field will not be current-free but if the amount of gas supported is not too large, it will be nearly force-free. A relaxation method has been devised for computing force-free magnetic field configurations and used to calculate the structure of a model filament. It is found that, for heights smaller than the slip distance, the magnetic field lines rise almost vertically, run nearly parallel to the slip line almost horizontally, and then descend almost vertically. Such a field configuration is well suited for supporting a mass of gas. The shape of the suspended gas would then simulate the "sheet" or "veil"-like structure of a filament. It is also clear that such a structure permits flow of gas parallel to the neutral line.

This interpretation of a filament provided a mechanism for supplying the dense gas supported by the magnetic field, since slippage tends to raise magnetic field lines and so to raise the gas in which the field lines are embedded.

The relationship between filaments and flares may be understood by identifying the pre-flare state of a recent flare model (Sturrock, P. A., and Coppi, B., "A New Model of Solar Flares," *Stanford University Rept. SUPR 6*, April 1965) with a massive filament (or part of a filament) in the low chromosphere.

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Observations of Lunar Occultations of 3C17 at 800 Mc/sec. J. L. TALEN, *Radio Astronomy Observatory, University of Michigan*.—Lunar occultations of 3C17 were observed at a frequency of 800 Mc/sec (37.5 cm wavelength) with the 85-ft radio telescope at the University of Michigan. Immersion and emersion were observed on 9 January and 26 May 1965.

The over-all source dimension for position angle 60 deg is 0.7 ± 0.3 min of arc; there is no pronounced deviation from a uniform brightness distribution at this position angle. The circumstances of the occultations precluded the measurement of other dimensions.

The position of the center of the source is right ascension $0^h 35^m 47^s 8 \pm 0^s 5$ and declination $-2^\circ 24' 20'' \pm 20''$ (1950.0). This position is 50 sec of arc from the position reported by Read (*Astrophys. J.* 138, 1, 1963) and Formalont *et al.* (*Astron. J.* 69, 772, 1964).

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White Dwarf Atmospheres. YOICHI TERASHITA AND SATOSHI MATSUSHIMA, *University of Iowa Observatory*.—A network of 20 nongray model atmospheres and hydrogen line profiles have been computed for white dwarfs with effective temperatures ranging from 8000° to 25 000°K and logarithmic surface gravities between 6 and 9. Assuming a standard chemical composition and taking H, H, He, and He⁺ as sources of continuous opacity, the calculations are made on the basis of the Avrett-Krook iteration procedure including the pre-ionization effect. It has been found that the effect of Balmer lines is more important than the pre-ionization except for regions very close to the Balmer discontinuity.

UBV colors calculated from the emergent flux place each of the above models on a (*U-B*, *B-V*) diagram, forming an interpolation scheme to determine a set of T_e and g values for a star from the observed colors. Thus, T_e and $\log g$ values are determined for about 90 DA-type white dwarfs for which the photometric data and H γ equivalent widths are given by Eggen and Greenstein (*Astrophys. J.* 141, 83, 1965). At the same time, "iso-equivalent-width" curves are constructed on a T_e - $\log g$ domain, on which theoretical values of $W(\text{H}\gamma)$ are estimated for the same group of stars. A comparison of the observed equivalent widths with the above predicted values has shown a good agreement indicating the consistency in the computations of colors and line intensities. Further comparisons of the detailed profiles of H γ lines with those ob-