solar background was also recorded. Limb brightening was conspicuous in $O\text{ VI}$, and $Mg\text{ IX}$, slight in H -Lyman-alpha and beta and $C\text{ III}$, and absent or nearly so in $He\text{ II}$.

Distorted-Polytrope Representation of Beta Lyrae. ERNEST G. REUNING, *University of Georgia* AND JOHN F. SPRINGER, *University of South Florida*.—Discussions of instability and mass loss in close binaries usually compare empirically derived dimensions or approximating triaxial ellipsoids with critical Roche equipotential surfaces and associated Lagrangean double points. This procedure ignores the dynamic relationship between the admittedly diffuse but photometrically important outermost layer and the actual potential field.

However, four papers by Chandrasekhar (*Monthly Notices Roy. Astron. Soc.* **93**, 1933) permit the representation of one component at a time as a distorted polytrope, with the disturbing companion approximated by a point mass. Using the recently revised Algol-like model of Beta Lyrae (O. Struve and Su-Shu Huang), polytrope surfaces have been computed for both components and the method has been extended to the derivation of pseudo-Lagrangean points and associated critical dimensions.

Since the polytrope radius of the unstable B8 star towards the companion presumably extends beyond the critical pseudo-Lagrangean point, the boundary of an instability zone facing the companion has been derived; this boundary is defined by the pressure, density, and gravity vanishing simultaneously. Within the zone itself the force vector is directed outward and matter can escape into the surrounding space. The revised model, showing the B8 component as both the less massive and the larger, supports the present method, and approximations used become more tenable.

For the general case, formulas and tables of polytrope dimensions and pseudo-Lagrangean points are given for 21 mass ratios and a range of radii expressed as fractions of the separation, with adaptations for density ratio and polytropic index as variable parameters. Simultaneous expansion and distortion of two initially stable polytropes to instability as a limit, upon progressively closer approach, has been formulated.

The support of the National Science Foundation Undergraduate Research Participation program is gratefully acknowledged.

Conspicuous Coronal Condensation Observed at New Guinea Eclipse in February 1962. KUNIKI SAITO AND DONALD E. BILLINGS, *Tokyo Astronomi-*

cal Observatory and High Altitude Observatory.—Direct photographs of the solar corona were taken at the total eclipse in New Guinea on 5 February 1962 with a quadruple-lens camera of focal length 2.30 m and with polaroid plates on four position angles differing by 45° each. A conspicuous coronal condensation was observed on the west limb and the isophotes in polarized and unpolarized lights are obtained after subtracting the contribution from the general corona. (1) This condensation consists mainly of three loops with the surrounding halo. (2) Polarization data give a three-dimensional configuration for these objects: two of them, at least, were inclined about 20° forward from the projected celestial plane, and were lying over an active region on the sun's surface. (3) By supposing an axial symmetry of distribution, the electron densities in the condensation are obtained as far as 1.5 solar radii. The cross sectional distribution is well fitted by combinations of Gaussian curves. (4) Applying hydromagnetic theory, magnetic lines of force are drawn in the condensation for the assumed temperatures of 10^6 , 1.5×10^6 , 2×10^6 K. (5) By following the hydrodynamic processes along magnetic tubes of force, reasonable variations in temperature with distance from the sun are obtained. The most plausible temperature is 1.5×10^6 K at the surface, dropping to 1.0×10^6 K at $1.07 R_\odot$ and then increasing to an almost constant value of 2.2×10^6 K at $r \geq 1.3 R_\odot$. This temperature model corresponds to an initial solar wind velocity of a few km/sec at the surface and about 80 km/sec at 1.5 solar radii.

Preliminary LTE Study of the Fishbone Effect.

DONALD C. SCHMALBERGER, *University of Rochester*.—Pecker's method for determining $T_{\text{exc}}(\tau_c)$ from the center-limb variation of central intensities has been applied to six weak metallic lines in the 6100–6150 Å region of the solar spectrum. Center-limb variations of central intensities and half-widths, reduced from data obtained by Waddell at the Sacramento Peak Observatory, and results of the profile calculations are in press (Schmalberger, *Astrophys. J.* **138**, 1963). Using the Swihart-Fischel "adiabatic" model atmosphere, the depth-dependent model of anisotropic turbulence, and the abundance parameters from that study, excitation temperatures and depths of formation were derived from the central intensities of these lines at six disk positions.

Although no two of the lines are common to the same multiplet, the resulting $T_{\text{exc}}(\tau_c)$ curves show a relatively small spread in T_{exc} and have slopes generally characteristic of the local temperature gradient in the theoretical model, as well as in the