If the Raleigh-Taylor instability can occur at the boundary of an expanding HII region, the present model is a reasonable first approximation to the physical situation in the sense that compressibility is important mainly in the surrounding $H I$ region (the upper fluid). Since the growth rates of perturbations having long wavelengths are retarded, λ_c is the order of the longest wavelength with which the Rayleigh-Taylor instability is likely to be observed in an HII region. If the temperature of the HII region is $10\,000^\circ K$, and if the acceleration of the boundary of the HII region lies in the range 4×10^{-8} cm/sec² to 4×10^{-7} cm/sec², then λ_c lies in the range 8 pc to 80 pc. These values are to be compared with the maximum observed widths of the order of 6 pc for the so-called "elephant trunk" structures which are found in HII regions.

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The Metal-Rich G-Dwarf 20 Leo Minoris and Two Comparison Stars. GEORGE WALLERSTEIN AND H. L. HELFER, *Berkeley Astronomical Department, University of California and Department of Physics and Astronomy, University of Rochester.*—We have found 20 Leo Minoris to be overabundant in 11 elements by a factor of 2 when compared with the sun. The uncertainties in the analysis admit the possibilities that the overabundance is as small as that in the Hyades (25%) to as large as a factor of 3 greater than the sun. The low-velocity star HD 187923 has a slight excess of metals and the high-velocity star HD 30649 is deficient in metals by a factor of 2. Both HD 187923 and HD 30649 are deficient in manganese relative to the other ten elements studied.

On the Distribution of Electron Density Inside the Earth's Orbit. J. L. WEINBERG, *High Altitude Observatory, Boulder, Colorado.*—Photometric studies of the brightness and polarization of the zodiacal light have previously been used to obtain a maximum electron density, N_e , at the earth's orbit of approximately 600 cm^{-3} .

These results are re-examined in the light of recent zodiacal light observations and the maximum number density of electrons for various distances from the sun is found to be considerably lower than that previously determined. In one example N_e was found to be less than 100 cm^{-3} at 1 a.u.

Galactic Motions in a Large-Scale Magnetic Field. DONAT G. WENTZEL, *University of Michigan Observatory, Ann Arbor, Michigan.*—A large-scale galactic magnetic field transfers angular momentum of the interstellar gas among different regions of the

galaxy and thereby causes cumulative, rather than epicyclic, radial displacements of the gas. The persistence of spiral structure in spite of differential galactic rotation indicates that such a magnetic field exists. A plausible field connecting the galactic plane with the halo can exchange angular momentum between these regions and leads to two giant circulations of the interstellar gas on each side of the galactic plane. The observed radial motions of the "3-kpc arm" and the isolated central region of the galaxy can be explained adequately.

A Heavily Reddened Cluster in Ara. BENGT WESTERLUND, *Uppsala Southern Station, Mount Stromlo Observatory, Canberra, A.C.T. Australia.*—During a survey of the southern Milky Way with the 20/26-inch Schmidt telescope at Uppsala Southern Station a heavily reddened cluster has been found in Ara at R.A. = 16^h45^m3 , Dec. = $-45^\circ46'3$ (1960). The region shows some very dark lanes and a few emission patches. The brightest stars in the cluster are found at $V=14$ mag. No stars can be seen in the cluster region on plates reaching $B=19$ mag. From a preliminary photometry in infrared and visual light of 80 stars inside of circle of $2'$ in diameter a mean total visual absorption of 11.2 mag. has been found. The color-magnitude array indicates that the cluster is very young. It appears likely from the photographs that most of the absorption is caused by dust in the same volume of space as the cluster.

Note on the Nebulosity Around RS Puppis. BENGT WESTERLUND, *Uppsala Southern Station, Mount Stromlo Observatory, Canberra, Australia.*—During a survey of the southern Milky Way with the 20/26-inch Schmidt telescope at Uppsala Southern Station a weak nebulosity has been found around the Cepheid RS Puppis. It appears likely that we have here a diffuse nebula reflecting the light from RS Puppis. To our knowledge no Cepheid is previously known to be so directly associated with interstellar matter. The maximum extension of the nebula from the star is approximately 1.4 minutes of arc. This appears sufficiently large to permit detection due to the pulsation of the star. The region is being photographed regularly with the 74-inch telescope at Mount Stromlo Observatory.

Population I in the Large Magellanic Cloud. BENGT WESTERLUND, *Uppsala Southern Station, Mt. Stromlo Observatory, Canberra, A.C.T. Australia.*—Blue, visual, red, and infrared magnitudes have been measured for a total of about 1450 stars in five regions near 30 Doradus and Constellation III. The limiting magnitude is about $V=16$ mag. Color-magnitude diagrams are presented for 26 associations,