following results. In the disk, the rotation of the gas and stellar components are similar. In the bulge, stellar rotational velocities are only about half of the rotation of the disk. The velocity dispersion curves exhibit a decline with radius, with the small bulge systems showing the steepest decline. A reevaluation of the V_2/r vs. ellipticity of spiral bulges shows that models of rotationally flattened oblate spheroids do not fully explain the observations.

As part of the analysis, we have performed numerical experiments to determine values of the intrinsic rotation of the bulge in regions where significant fractions of the light come from both the bulge and the disk. These mixing experiments show that differences in both line strengths and in velocity dispersions play major roles in producing the observed velocities.

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43.03 Possible Detection of an Old Supernova Remnant Associated with HD 50896

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Using high-dispersion IUE spectra, we have detected a very large interstellar structure in the line-of-sight to the Wolf-Rayet star HD 50896. Blue-shifted interstellar absorption lines indicative of high-velocity gas are present in the spectra of four B stars located up to 2° away from HD 50896 and at a distance of 1000-1400 parsecs, suggesting a linear diameter for the structure of at least 40 parsecs. These high-velocity components, present only in the low ionization lines and exhibiting nearly cosmic abundances, can be interpreted as a heretofore unknown, extremely old supernova remnant. The existence of such a supernova remnant potentially associated with HD 50896, a runaway Wolf-Rayet star believed to have a compact companion, implies HD 50896 may be a binary in the second Wolf-Rayet phase of evolution.

43.04 Discovery of a New, High Field, Magnetic White Dwarf, KUV813-14


We report the discovery of a new magnetic white dwarf, KUV813-14, during a spectroscopic survey of faint KISO blue candidates, (Kondo, M. et al., 1982, Publ. Astr. Soc. Japan, 34, 541), with the 7.3m Steward Observatory reflector. Our blue PC reticon spectra reveal the presence of numerous z and o Zeeman sub-components of Halpha, Hbeta, and Hgamma. The Zeeman pattern yields, by comparison with the Kemic (1979) tables, a mean field strength of 25-30 mega-gauss. Broadband photometric observations have been obtained along with optical continuum polarization observations which reveal 0.5 percent circular polarization. A high resolution reticon observation in the Halpha region rules out the presence of helium and, therefore, a mixed atmosphere such as that found in Feige 7. The low resolution IUE energy distribution (4000-4500A), when compared with cool DA model atmosphere fluxes provided by H. L. Shipman, yields T_e = 11,500 ± 500K, log g = 8. This new high field, DAP4 degenerate brings the number of known magnetic white dwarfs to eighteen.

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43.05 The USNO Pole-to-pole Astrometric Program

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The U.S. Naval Observatory will conduct a pole-to-pole absolute observing program during the next ten years. The Observatory's seven-inch transit circles is currently being set up at Black Birch Astronomical observatory, located in the northern part of the south island of New Zealand. This instrument is equipped with an image dissector and will observe in an automatic mode. The six-inch transit circle, located in Washington, DC, has made fundamental observations for over 80 years, and will continue to observe in a visual mode. The location of the two instruments allow a 60 degree overlap, from which comparisons of instrumental results can be made. The observing list will include some 5,000 FKS and 40,000 International Reference Stars, major and minor planets, the Sun and the Moon. An eight-inch twin astrophotograph is photographing the entire northern hemisphere, and the instrument will be sent to New Zealand to complete a photographic pole-to-pole program. The plates will be reduced using the transit circles results, producing a catalog containing more than a million star positions.