In the present work, the radial abundance gra-
lients (O/H, S/H, Ne/H and Ar/H) from planetary nebulae are compared with similar data for stars and H II regions, in order to study the temporal variations of the gradients. Our results are consistent with a continuous flattening of the gradients, which poses some constraints on possible models for the chemical evolution of the Galaxy. In particular, strongly non-linear variations of the star formation rate (SFR) with the gas density and weak radial flows are limited by the available data. (CNPq/FAPESP/CAPES/DFG).

DIFFERENTIAL CCD PHOTOMETRY OF WX CET, AQ ERI AND CU VEL

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Observations of three SU UMa or WZ Sge type dwarf novae in quiescence were obtained from December 8 to 11, 1991 at the 1-m telescope at Las Campanas Observatory in Chile, with a typical time resolution of 4 minutes and an internal mean error of $0\overset{m}{.}04$ for stars of $\sim 17^m$ (similar as the variables). We searched for periods using a phase dispersion minimization analysis (part of the IRAF package). WX Cet was monitored for 5 hours during 2 nights in the *B* bandpass, showing a hump like light curve with $0\overset{m}{.}4$ amplitude similar as the reported by Howell et al. (1991, PASP, 103, 300). The best period of our data $1\overset{h}{.}907 \pm 0\overset{h}{.}029$ (with possible aliases at $1\overset{h}{.}757$ and $2\overset{h}{.}058$) is considerably larger than expected from the superhump period ($\approx 1\overset{h}{.}3$) found by O'Donoghue et al. (1991, MNRAS, 250, 363). In addition, we found spikes in our light curves with a period of $\approx 0\overset{h}{.}75$, the same as found by Howell et al. They may refer to the rotational period of a magnetic white dwarf. AQ Eri, which was monitored for $6\overset{h}{.}4$ in 3 nights using the *V* filter, reveals a quasi-sinusoidal modulation with a period between $1\overset{h}{.}38$ and $1\overset{h}{.}70$ and $0\overset{m}{.}35$ amplitude, which could be the binary period, compatible with the superhump period ($1\overset{h}{.}494$ or $1\overset{h}{.}405$) found by Kato (1991, IBVS, 3671). An additional $0\overset{h}{.}54 \pm 0\overset{h}{.}03$ periodicity is present each night, which again could refer to the white dwarf rotation. There are also indications for a hump like light curve of CU Vel with an amplitude of $\approx 0\overset{m}{.}25$ (*V* bandpass) and a period similar to the superhump period ($1\overset{h}{.}918$, Ritter 1990, A&AS, 85, 1179).

This research was supported by FONDECYT grant 91-0637.

ULTRAVIOLET AND OPTICAL SPECTRA OF CENTRAL STARS OF HALO PLANETARY NEBULAE

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Optical and *UV* spectrophotometric data are analyzed for the central stars of Population II planetary nebulae: M2-29, PN 6–41.1, GJJC-1, DDDM-1, K 648, NGC 2242, PN 242–37.1, and NGC 4361. From these data, we derive visual magnitudes, spectral classification, color temperatures, luminosities and masses of the objects. We find the following results:

– All the stars show absorption type spectrum and most of them have normal H and He photospheric abundances, the only possible exceptions are M2–29 and GJJC-1 which seem to be H-deficient stars.

– The effective temperatures of the sample range from less than 40 000 to more than 80 000 K. The stellar temperatures derived from *UV* colors in general are in agreement with the effective temperatures derived from other methods (Zanstra temperature and model ionization structure for the nebulae).

– From comparison with evolutionary tracks it is found that the stellar masses of the objects in this sample are lower than 0.58 $M_\odot$. The range of masses is very narrow, from 0.55 to 0.57 $M_\odot$; and it is lower than that for disk and bulge planetary nebulae.

– NGC 4361 shows anomalous *UV* colors. This fact could be due either to *UV* excess in the $\lambda\lambda$1200 – 2000 range or to a lower reddening value than reported from nebular data.

– The visual magnitude of the central star of NGC 2242 is of 17.1 instead of the 15.02 that has been reported in the literature. We have also calculated the visual magnitude of the central star of M2–29 to be 17.7 mag.

– Three of the stars (PN 6–41.1, K 648 and DDDM-1) show evidence of stellar wind with terminal velocities in the range from 2000 to 3000 km s^{-1}.

The full version of this work is in Peña et al. (1992, A&A, 264, 752).