

AN OBSERVATIONAL STUDY OF THE HERBIG Ae STAR VV  
SERPENTIS AND R-STARS ASSOCIATED WITH ITS DARK CLOUD

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**ABSTRACT.** VV Serpentis is a Herbig Ae/Be object of uncertain spectral type. It is also an IRAS source embedded in an extended dark cloud. We have obtained *ubvy- $\beta$* , *JHKLM*,  $\alpha(16)\Lambda(9)$  photometries, high and medium resolution spectra of VV Ser and 12 selected R stars in its vicinity. We obtain for VV Ser and R stars spectral classification, luminosities, and interstellar reddening. We also find 7 new H $\alpha$  emission objects associated to the dark cloud.

*Key words:* INTERSTELLAR-DARK CLOUD -- PHOTOMETRY - STARS-AE

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