

## EVIDENCE FOR PRIMORDIAL ABUNDANCE VARIATIONS IN THE GLOBULAR CLUSTER 47 TUC

*Based on spectra of 106 cluster stars*

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The FOCAP multi-object system on the Anglo-Australian Telescope (AAT) has been used to observe 35 faint stars ( $V > 18$ ,  $M_v > +4.6$ ) and 83 stars with  $V < 18$  in 47 Tuc. The large sample of stars well below the turnoff permits us to examine abundance variations in relatively unevolved stars for the first time. Our spectral resolution ( $2.7\text{\AA}$ ) is greater than that used in previous studies.

Some evidence is found for significant scatter in the strength of the  $3883\text{\AA}$  CN band (a  $4.5\sigma$  result) and the CH G band ( $2.5\sigma$ ) for stars with  $+4.1 < M_v < +5.1$ . The  $3883\text{\AA}$  CN and CH bands are anticorrelated for these stars.

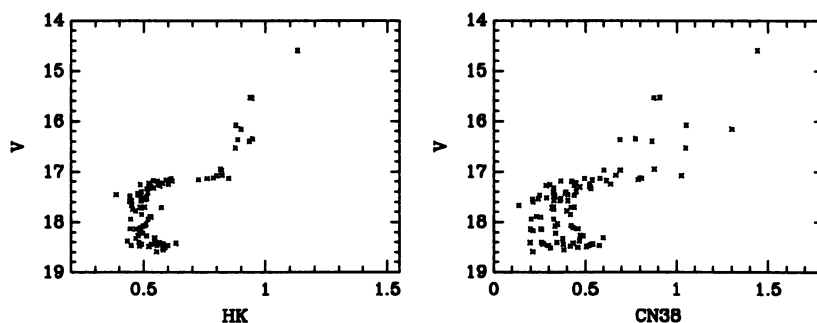


Figure 1. Observed Index-Magnitude Diagrams