

## S-Process Dispersion in G and K Field Giants

Andrew McWilliam  
Cerro Tololo Inter-American Observatory

A model atmosphere abundance analysis has been performed for a large number of G and K giants in a limited set of lines. The study was aimed at measuring the frequency of mild barium stars among GK giants in order to provide a test for the evolutionary status of the mild barium stars.

Published effective temperatures ( $T_{\text{eff}}$ ), determined via the infrared flux method, and broad band photometry were used to calibrate several color- $T_{\text{eff}}$  relations. Using these and standard methods the model atmosphere parameters for over 600 stars were determined, and are presented here.

It is shown that accurate abundance ratios, which are insensitive to errors in the model atmosphere parameters, can be measured if the lines used in the abundance analysis are carefully selected.

The final s-process abundances indicate that a large fraction of previously identified mild barium stars are probably normal. A group of stars in this survey are provisionally identified as being s-process enriched. This group has a high incidence of duplicity and radial velocity variation. The frequency of this group, if they are truly s-process enriched, constrains the mass transfer scenario explanation for the origin of mild barium stars.