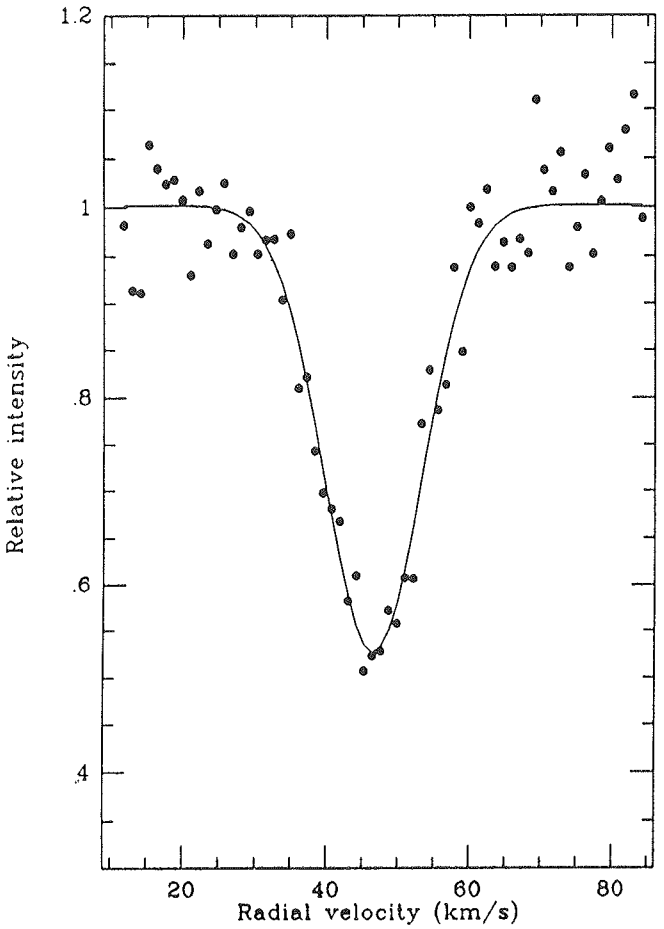

Figure 5: *The cross-correlation dip of a K2 III star of magnitude B = 10.4 after 60 sec of integration. After such a short exposure, the radial velocity uncertainty is about 0.5 km/s.*

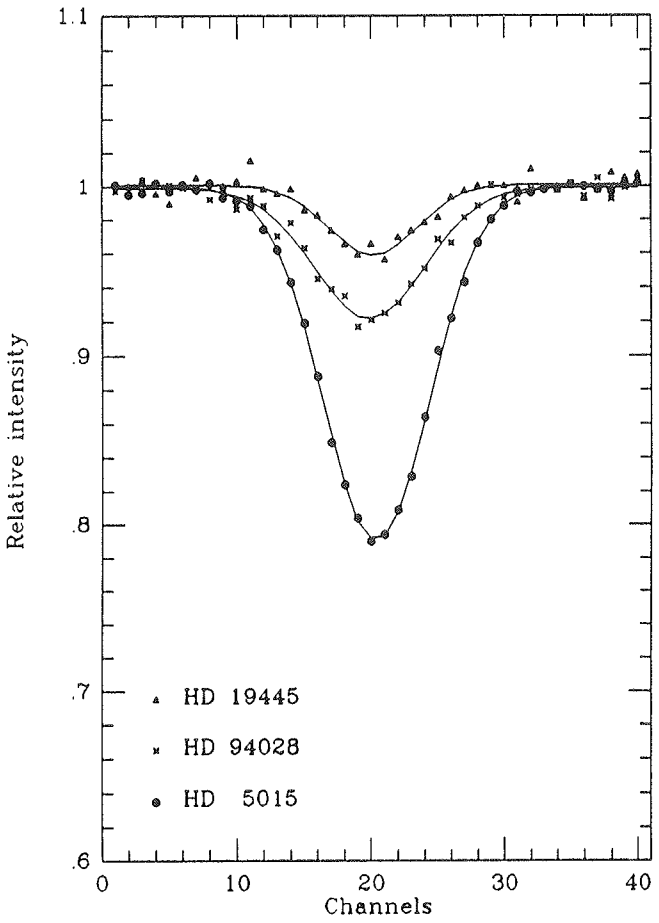

Figure 6: *The cross-correlation dips of three stars having about the same temperature, but quite different metallicities. The (Fe/H) are respectively +0.1, −1.4 and −1.8 for HD 5015, 94028 and 19445. Such a comparison shows the extreme sensitivity of the dip surface with metallicity.*

time by ESO and by the Danish Board for Astronomical Research, we are rather confident that all the red stars in the southern hemisphere of the Hipparcos mission will have known radial velocities in five or six years.

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PISCO Modifications

Recently, the software for PISCO has been extensively modified and improved. This has had the following effects:

- reliable on-line reduction
- possibility of hard copy of on-line data
- simplified calibration procedure
- simplified exposure definition form
- various bugs removed

During the night, the on-line results can now also be printed; this is useful for planning the next night's work. On-line reduction now works with the proper Fourier transform method and gives an accurate impression of the data quality obtained. It can be used with or without automatic sky subtraction.

The calibration menu has been simplified and is therefore more user-friendly, as is also the exposure definition form. Finally, some bugs were removed from other parts of the software.

The PISCO Observer's Manual is now available (ESO Operating Manual No. 13).

H.E. SCHWARZ, ESO

Joint ESO/CTIO Workshop in 1990

The European Southern Observatory and Cerro Tololo Interamerican Observatory will hold a joint workshop on "Bulges of Galaxies" in the period January 16–19, 1990, in La Serena, Chile.

The emphasis will be on the interaction between theory and observations of bulges of galaxies. Topics will include: dynamics and kinematics, stellar populations, chemical evolution and the bulge/disk/halo connections. The meeting will be in the form of relatively long invited reviews, shorter contributed papers and posters.

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The radial velocity technique was utilized to make the rst exoplanet discoveries and continues to play a major role in the discovery and characterization of exoplanetary systems. In this chapter we describe how the technique works, and the current precision and limitations. We then review its major successes in the eld of exoplanets.Â On the Sun, the typical velocities of these convective motions are 1-2 km sâˆ’1 in the vertical direction. Fortunately for planet searches, the large number of granules on the vis-ible stellar surface (â¼106) efciently averages out these ve-locity elds. However, the remaining jitter due to granula-tion is expected to be at the m sâˆ’1 level for the Sun, proba-bly less for K dwarfs (e.g. PalleÂ´ et al. Measuring Radial Velocities Radial velocity is measured in terms of the change in the distance from the sun to the star. If this is increasing (the star is moving away from us), the radial velocity is positive; if it is decreasing (the star is moving toward us), the radial velocity is negative. We cannot use the radial velocity to decide whether the star is "really" moving toward or away from the Sun or vice-versa; what it measures is the relative motion of the Sun and star. To measure some kind of absolute motion in space we would have to define a reference frame based (for example) The radial velocity of an object with respect to a given point is the rate of change of the distance between the object and the point. That is, the radial velocity is the component of the object's velocity that points in the direction of the radius connecting the point and the object. In astronomy, the point is usually taken to be the observer on Earth, so the radial velocity then denotes the speed with which the object moves away from the Earth (or approaches it, for a negative radial velocity).