the area within a given antenna temperature contour. In addition to the variation of internal density with the radial distance from the cloud center, total mass, potential energy kinetic energy and internal velocity dispersion required for sustaining the density structure are also derived, and their implications on the dynamical state of the cloud are discussed.

An Analysis of UBV Photometry Based on Kurucz Model Atmospheres

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Theoretical relationship between effective temperature and *UBV* colors of Kurucz model atmospheres (Kurucz et. al. 1975) have been derived as a function of surface gravity and chemical compositions. The usefulness of the derived relationship has been examined by computing colors of 179 parallax stars with the aid of the derived relations. It is demonstrated that the *UBV* system can be used to determine the colors of individual stars to reasonable accuracy, when their surtace gravity and chemical compositions along with effective temperature are known.

Photometric Abundance Indicators for M-dwarfs

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The *UBVRIHKL* magnitudes on Johnson system and space motions of *M* dwarf stars were collected. This sample of M stars have been distinguished on a purely kinematical basis; the young disk population with $e<0.15$, the old disk population with $0.15<e<0.3$, and the halo population with $e>0.3$. From the color-color diagrams and color excess versus eccentricity diagrams, we can not distinguish the old disk stars from young disk stars, but the color indices, $\Delta(U-B)$, $\Delta(B-V)$, $\Delta(V-R)$, $\Delta(H-K)$, $\Delta(K-L)$, and $\Delta(B-R)$ can be used as abundance indicators only for halo stars. However, these color excesses which are measures of blue excess, are positive in the halo stars with low eccentricities and become negative in those with high eccentricities.

태양 인근 항성들에 대한 측광인자의 상호 관련성

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태양 인근 항성들의 관측된 광전인자 [$(B-V)$, $(U-B)$ $(R-I)$, δ (0.6), $[Fe/H]_{\odot}$, g, Te, Sp]들을 이용하여 (i) $(B-V)$와 $(U-B)$의 표면중력(g)와 중원소함량비(Z)에 대한 관련성, (ii) $(B-V)$와 $(R-I)$의 관련성, (iii) 2색도표상에서 Z의 분포, (iv) $(R-I)$, g, Z 등에 대한 분광형의 관련성, (v) δ (0.6)과 Z의 관련성 등을 조사했다. 여기서 특히 *UBV* 측광과 분광형에 대한 g와 Z의 의존성과 중원소함량비 결정에 관한 몇가지 문제를 논하고자 한다.