

relation shows that the emission flux excess of the CaII *H-K* lines  $F_h' + F_k'$  introduced by Linsky et al. decreases with stellar age  $\tau$  as  $\tau^{-0.51}$ , consistent with the inverse square law as noted by Skumanich.

## A Study on Abundance Indicator for Late Type Dwarfs

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From *UBVRI* photometry and space motion data 233 late type dwarf stars, it is found that for stars of  $(R-I) < 0.5$ ,  $(U-B)$  and  $(B-V)$  colors are good photometric abundance indicators to separate stars into young disk stars, old disk stars, and halo stars. From the color excess-orbital eccentricity diagrams of late type dwarfs, it is found that there seems to exist an anti-correlation between color excess and orbital eccentricity among halo stars with  $e > \sim 0.7$  and  $(R-I) < 0.5$ , and among halo stars with  $e \geq 0.42$  and  $(R-I) \geq 0.5$ . The continuum opacity due to the Rayleigh scattering by  $H_2$  appears to be responsible for the observed blue deficiencies. Therefore, they could be used as a photometric abundance indicator for late K and M type stars.

## The Formation of Small Satellites near the Saturnian A-ring

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최근에 발견된 토성의 5개 소위성(1980 S1, S3, S26, S27, S28)의 기원을 공명에 의한 accretional model로서 설명을 시도했다.

위성들에 의한 공명의 위치와 세기를 계산한 결과에 의하면, S1과 S3 위성은 Mimas와 Enceladus의 공명에 의해 형성되었으며, S26, S27, S28, F-ring 등은 S1과 S3의 공명에 의해 2차적으로 형성되었을 가능성을 제시한다.