

이미 알려져 있는 spectral type의 별중 Subdwarf로 의심이 되는 80여개의 별을 좀더 자세한 slit spectrogram을 36-inch Cassegrain Reflector로 얻어 spectral type을 교정하였다.

위에 얻어진 spectral type data와 이미 발표된 spectral type을 이용하여 Luyten의 luminosity function을 구하는 방법인 mean absolute magnitude의 method에 사용한

$$(M) = aH + b \quad \text{여기서 } H = 5 + 5 \log \mu + m$$

의 관계식이 spectral type에 따라 변하는 가를 조사해 보았다.

### 식변광성 CW Cas의 궤도요소

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Burchi, R. and de Sarts, R.에 의하여 관측발표된 식변광성 CW Cas의 광도곡선의 관측치(V)를 Russell and Merrill의 방법에 의해 광도곡선을 보정하였고, 보정된 광도곡선의 shape function과 depth function으로부터 nomographic method에 의해 CW Cas의 preliminary solution 얻었다.

### ABUNDANCE VARIATION AMONG GIANT STARS IN THE CENTRAL PART OF 47 TUC

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Four stars in the central region of 47 Tuc were observed spectroscopically using IPCS. The observed result showed that 2 asymptotic giant branch stars have the excess of carbon compared with the red giant branch stars, which indicated that the radial colour gradient in a globular clusters, at least for 47 Tuc, comes from the abundance gradient among the giant stars.

### A PROGRESSIVE REPORT ON CALIBRATION OF SNU PHOTOMETRIC SYSTEM.

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and

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From September 30 to October 9, 1979, we made the first observations at Sobaeksan Observing Station in order to calibrate the SNU photoelectric photometric system attached to KNAO 61 cm reflector. This is a progressive report on the calibration with only the first trial set of

filters. Photometric results with SNU system will be compared with Johnson's standard system for 25 stars. A brief discussion will be given to the filter characteristics of the first trial set.

## SMALL GRAINS EXPERIENCING TEMPERATURE FLUCTUATION UNDER DIFFUSE INTERSTELLAR RADIATION FIELD

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Temperature history of very small interstellar dust particles is followed under diffuse radiation from stars in interstellar space. Because of extremely small thermal capacities of these grains in a few tens Å range, they are to experience strong fluctuations in temperature whenever they are hit by interstellar ultra-violet photons. Fluctuating temperature can inhibit these small grains from growing into core-mantle particles of submicron sizes by continuously evaporating atoms and molecules adsorbed on their surfaces. This is interpreted as a possible physical reason for the bimodal size nature of interstellar grains. A brief discussion is also given to the far infrared emission properties of such small grains in interstellar dust clouds.

## AN UNSUCCESSFUL ATTEMPT TO OBSERVE LUNAR OCCULTATION

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The process and the results of the first trial to measure the lunar occultations photoelectrically at Sobaeksan Observing Station will be reported. The result is unsuccessful because of limited memory space of computer and difficulties in locating stars when they emerge from the dark side of the moon. The ways to overcome these difficulties will be discussed.

## 12 표준성의 UBV 광전측광 관측

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소백산천체관측소에 설치된 61-cm반사망원경에 UBV광전측광기를 부착하고 12개의 표준성에 대하여 이를 밤동안에 243개의 관측치를 얻었다. 2차흡수 계수  $k''$ 를 얻기 위하여 6 Lac(4<sup>m</sup>.5, B3)와 11 Lac(4<sup>m</sup>.6, KO)를 찍지워  $k''_v=0.028$ ,  $k''_{(B-v)}=-0.027$ ,  $k''_{(U-B)}=0.023$ 을 얻었고 1차흡수 계수  $k'$ 는 별에 따라 다소 차이는 있으나 대략  $k'_v=0.25$ ,  $k'_{(B-v)}=0.15$ ,  $k'_{(U-B)}=0.50$ 을 얻었다. 이를 이용하여 8개의 별의 기계등급  $v_0$ ,  $(b-v)_0$ ,  $(u-b)_0$ 를 구하였다.