

RSCVn binary V711 Tauri using the 40-cm Cave reflector of Yonsei University Observatory. The internal probable error for a single observation determined with 28 yellow observations of the check star (12 Tauri) turned out to be small enough (± 0.0079), so that the study of the peculiar and the small range light variability of the order of 0.1 magnitude in the V711 Tauri system became available. The photometric results thus obtained from our 1981~82 observations are presented.

Photometric studies on three well known apsidal motion systems

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Three well known apsidal motion systems (CW Cep, Y Cyg, and AG Per) were observed using the photometer attached to the 40cm Cave reflector of Yonsei University Observatory in late 1981. Out of many attempts a total of 10 times of minimum light in the yellow and blue for three stars was made, and the deduced epochs are as follow:

Star	Times of minima(JD Hel 2444000+)	$\underline{O}-\underline{C}$	Filter	Type of Min.
Y Cyg	897.0686 \pm 0.0002	+0.0287	V	I
	0689 \pm 0.0002	+0.0290	B	I
AG Per	898.0905 \pm 0.0002	+0.0327	V	II
	.0912 \pm 0.0002	+0.0334	B	II
	902.1450 \pm 0.0002	+0.0297	B	II
	.1456 \pm 0.0002	+0.0303	V	II
CW Cep	909.0548 \pm 0.0002	-0.0082	V	I
	.0580 \pm 0.0002	-0.0050	B	I
AG Per	915.2660 \pm 0.0002	-0.0360	V	I
	.2664 \pm 0.0002	-0.0356	B	I

Due to a lack of observations for last 5~6 years for each star, our observation holds its importance for the rediscussion and the refinement of the apsidal period and constants.

Photoelectric Observation of TX UMa

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B.V. photoelectric observation of TX UMa was observed for sixteen nights in this year with the 24 inch reflector at Yonsei University Observatory. The obtained full light curve will be presented.

Surface Photometry of Spiral Galaxies, M31, M81, and NGC 2403

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Photoelectric surface photometry in three colors has been obtained from drift scan observations along the W-E line for M31, M81, and NGC 2403, and photographic surface photometry has been carried out for NGC 2403. In M31 and M81, spiral arms and dark lanes appear in the luminosity

profiles as wide bumps and depressions. In the nuclear region ($r < 3'$) of M31, the west side is brighter while in the outer region the east side is brighter. In the central part of both M31 and M81, the B-V color is almost constant. But U-B in M31 and B-V in M81 show increasing blueness with distance from the center. In NGC 2403 there appears an asymmetry between east and west sides and an excess in B is observed at the ring-like region. No systematic variation of color in the visible range is detected in NGC 2403. From photographic photometry of NGC 2403, the dark lanes and spiral arms are identified and compared with the photoelectric results. The photometric results are compared with radio data.

Structure of a late type spiral galaxy NGC 7793

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Using the empirical model, we tried to calculate the composition of NGC 7793. The calculated mean abundance is $[O/H] = -0.39$, $[N/O] = -0.71$ and $[S/O] = 0.36$. However, we could not find any radial abundance gradient for this galaxy. This uniform abundance seems the general character of the late type spiral galaxy.

H-R Diagram for Nearby High-Velocity Stars*

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Two hundred nearby high-velocity stars were selected on the basis of tangential velocity larger than 100 km/sec. Color-color diagram and color-magnitude diagram as well as M_{bol} versus $\log T_{eff}$ diagram for these high velocity stars have been obtained. H-R diagram for nearby high velocity group is found to be of a group of stars, at least, about $(5 \sim 10) \times 10^9$ year old and resembles an old open cluster.

Evolution of the Solar Neighborhood I**

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As a part of the study on the evolution of our Galaxy, physical and kinematic properties of parallaxic stars were investigated in the aspect of the Galactic evolution. Some results about the evolutionary characteristics of the parallaxic stars are presented.

The Presence of C₂ Lines in Sunspots

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High spatial and spectral resolution observations have been made over a sunspot (SPO 6403) with the Echelle Spectrograph at the Vacuum Tower Telescope, Sacramento Peak Observatory, searching for C₂ lines in sunspots.

* This work is supported in part by KOSEF.

** Author is grateful to the KNAO for telescope time and support.