

## UBVI & H $\alpha$ Photometry of the Young Open Cluster NGC 2244

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New *UBVI* and H  $\alpha$  photometry has been performed in the young open cluster NGC 2244. We assigned the membership of massive OB stars using proper motion data and spectral types from previous investigators along with color-magnitude and color-color diagrams obtained in this study. We also defined a new H  $\alpha$  emission measure and set up a selection criterion to select pre-main sequence (PMS) stars with H  $\alpha$  emission. Eleven low mass PMS stars and six PMS candidates were found by the criterion. Also, six PMS stars with X-ray emission were identified in the vicinity of X-ray sources found by *ROSAT HRI* as optical counterparts of these sources. We determined the value of interstellar reddening  $\langle E(B-V) \rangle = 0.47 \pm 0.04$  and total to selective extinction  $R = 3.1 \pm 0.2$  for the cluster. The distance derived was  $V_0 - M_V = 11^m.1$ . By applying photometric results to theoretical evolution models, we derived main sequence turnoff age of 1.9 Myr and age dispersion of about 5 Myr. The IMF slope  $\Gamma$ , calculated in the mass range  $0.5 \leq \log m \leq 2.0$  was a flat slope of  $\Gamma = -0.7 \pm 0.1$ , which implies that the region surrounding this cluster differs with that of NGC 2264, located about  $5^\circ$  to the north. We also suggested that a large number of the circumstellar disks surrounding PMS stars might have been swept out by strong winds from O- and early B- stars in the cluster from the fact that the number of PMS H  $\alpha$  emission stars are relatively deficient.