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We present a preliminary result from a high-resolution and high signal-to-noise spectroscopic survey, providing atmospheric parameters for about 170 nearby field dwarfs in the Hipparcos catalog. Our preliminary analysis shows that when Hipparcos parallaxes are adopted, a few stars in our sample are too faint compared to main-sequence fitting distances based on our accurately measured [Fe/H]. We discuss magnitude deficits of these field stars in connection with the short Hipparcos distance to the Pleiades.

### [ㄱ ST-03] The circumstellar disk and wide-orbit companion candidates around T-Tauri Star

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We present the near-infrared(NIR) images of the asymmetric circumstellar disk around a T-Tauri star in the  $\rho$  Ophiuchi star-forming region, and two faint stellar objects around central star. These results were obtained with the Subaru Telescope with HiCIAO(the High-Contrast Instrument with Adaptive Optics) and IRCS(the InfraRed Camera and Spectrograph). The disk shows center-offset from the star and a strong morphological asymmetry along both the major and minor axis. The physical conditions in the disk is derived from the infrared visibility results and the complete spectral energy distribution using HOCHUNK3D, Monte-Carlo radiative transfer code. Two companion candidates are separated by 11.6 arcsec( $\sim 1450$  au at 125 parsec) and 4.34 arcsec( $\sim 540$  au at 125 parsec). This could be the first case, which imaged both of planetary mass companions and disk around same star. We discuss physical structures of the disk, and probability that two candidates are real companions.

### [ㄱ ST-04] IGRINS Spectral Library

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We present the high-resolution near-infrared spectra of standard stars observed with Immersion Grating Infrared Spectrograph (IGRINS). IGRINS covers the full spectral range of H and K bands simultaneously with a high spectral resolution ( $R=40,000$ ), revealing many previously undetected and/or unknown lines. In this work, we present preliminary results of spectroscopic diagnostics for stellar physical parameters. Our ultimate goal is to provide a library of near-infrared spectra of standard stars, which covers all spectral types and luminosity classes, with a high-resolution and high signal to noise ratio ( $SNR \geq 200$ ).

### [ㄱ ST-05] The CTIO 4m UBVI & Ha photometry and spatial variation of the reddening law in the $\eta$ Carina nebula

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Deep UBVI and Ha photometry of the  $\eta$  Carina nebula, one of the brightest nebulae on the sky, was obtained with the CTIO 4m telescope and MOSAIC II CCD Camera to determine the initial mass function down to low-mass ( $\sim 1 M_{\odot}$ ) stars. We modified the spatial variation coefficients in transformation relations of the MOSAIC II CCD. From the cross-identification of optical sources with previous surveys in X-ray, near-infrared, and mid-infrared, a clear PMS sequence is revealed in the optical color-magnitude diagrams down to  $V=23$  mag. Our previous SSO 1m UBVI data for Trumpler 14 (Tr 14) and Trumpler 16 (Tr 16) region, and additional SSO 1m UBVI data for Trumpler 15 (Tr 15) region were combined with the CTIO 4m data to re-examine the reddening law and distance of the young open clusters in the  $\eta$  Carina nebula. From the new photometric data for Tr 15 region, we report that  $RV[=AV/E(B-V)]$ , the total-to-selective extinction ratio, decreases from southern part of the nebula (Tr 14 and Tr 16) to northern part (Tr 15) in our field of view.