

[꺀ST-01] Magnetic Field Study for Be Stars

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Be stars are fast rotating B type stars with emission lines at Balmer series and other elements. To explain Be phenomena, it has been expected to have stellar magnetic field. Up to date, weak magnetic signatures were observed in a few Be stars but there are not enough observational results to establish magnetic property of Be stars. We carried out spectropolarimetric observation for 16 Be stars with BOESP (BOhyun Echelle SpectroPolarimeter) and 1.8m telescope in BOAO (Bohyun Optical Astronomical Observatory). The analyzed results for magnetic field of Be stars are presented.

[꺀ST-02] NIR transit observation for exoplanets: CoRoT-Exo-1b, WASP-1b, and WASP-3b

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We have studied the transiting exoplanets, CoRoT-Exo-1b, WASP-1b and WASP-3b in J and K_s bands with 1.8m telescope equipped with KASINICS (the Korea Astronomy and Space science Institute (KASI) near infrared camera system) at Bohyunsan Optical Astronomy Observatory (BOAO). The whole transit events containing both ingress and egress part for CoRoT-Exo-1b and WASP-3b, but half of the transit for WASP-1b have been observed. We have the light curves of flat-bottom shape in both J and K_s bands from which we derived the radius of those exoplanets. The planet's radius we have gotten is $1.550^{+0.082}_{-0.077} R_J$ (p=0.163) and $1.481^{+0.078}_{-0.073} R_J$ (p=0.161) in J and K_s band respectively for CoRoT-Exo-1b; $1.924 \pm 0.0074 R_J$ in J band (p=0.130); and $1.182^{+0.042}_{-0.040} R_J$ in J band (p=0.124). We have compared our result in NIR with others' results mostly obtained in visible wavelength, to find our ratio of planet to star radius is 17-33% larger than those of the other works in visible. In the case of WASP-1b, it shows a periodic anomaly, which needs additional observation to assure this anomaly in future.