[포 SA-06] Physical Dimensions of Planet-hosting Stars

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Accurate estimation of the masses, the ages, and the chemical abundances of host stars is crucial to understand physical characteristics of exo-planetary systems. In this study, we investigate physical dimensions of 94 planet-hosting stars based on spectroscopic observation and stellar evolutionary computation, From the high resolution echelle spectroscopy of the *BOES* observation, we have analysed metallicities and alpha-element enhancements of host stars. By combining recent spectro-photometric observations, stellar parameters are calibrated within the frame work of the standard stellar theory. In general, the minimum chi-square estimation can be strongly biased in cases that stellar properties rapidly changes after the terminal age main-sequence. Instead, we adopt a Bayesian statistics considering a priori distribution of stellar parameters during the rapid evolutionary phases. we determine a reliable set of stellar parameters between theoretical model grids. To overcome this statistical bias, (1) we adopt a Bayesian statistics considering a priori distribution of stellar parameters during the rapid evolutionary phases and (2) we construct the fine model grid that covers mass range (0.2 ~ 3.0 $M_{\odot}$) with the mass step ΔM = 0.01 $M_{\odot}$, metallicities Z = 0.0001 ~ 0.04, and the helium and the alpha-element enhancement. In this presentation, we introduce our calibration scheme for several hosting stars.

[포 SA-07] A New Grid-Based Monte Carlo Code for Raman Scattered He II: Preliminary Results

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We developed a new grid-based Monte Carlo code to trace far UV He II line photons that are incident on a thick H I region and subsequently transferred through Rayleigh and Raman scattering with atomic hydrogen. In particular, we consider a neutral region that is moving away from the He II emission source which is either monochromatic or is described by a Gaussian profile. The resultant Raman scattered He II line profiles from a monochromatic source are characterized by a double peaked core part with an extended Raman red tail that is attributed to multiple re-entry events. Complicated behaviors are observed in the case of a Gaussian He II source including the formation of a secondary red peak near the Balmer center dependent on the H I column density. A preliminary application of our results to the CFHT data of the planetary nebula IC 5117 is presented.

[포 SA-08] Periodic change of the magnitude and the radial velocity of V350 Peg

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Pulsating variable is a star whose luminosity changes through periodic pulsation. There are radiative and dynamical mechanisms hidden in periodic brightness changes, and the physical quantities related with the mechanisms are also expected to vary periodically. The purpose of this study is to investigate the periodic variations of the physical quantities of the δ Scuti type variable, V350 Peg by simultaneous photometry and spectroscopy. In this poster, we present preliminary results on apparent magnitude and radial velocity at the surface.

[포 SA-09] Distances to Host Galaxies of Type IIP Supernovae in Intensive Monitoring Survey of Nearby Galaxies using Photometric Color Method

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Supernovae (SNe) are well known as good cosmological distance probes owing to their brightness and well-characterized light curve property. Specifically, type Ia SNe have contributed greatly to our understanding of acceleration of cosmic expansion. However, type IIP supernovae occur most frequently (~ 40% of all) at low and high redshift. As knowledge on the type IIP SNe increases, distance measurement methods using type IIP SNe have evolved. In this study, we apply Photometric Color Method (PCM), which needs only photometric data using properties of plateau on type IIP SNe light curves, to measure distances of several host galaxies of SNe IIP from the Intensive Monitoring Survey of Nearby Galaxies (IMSNG). The daily monitoring of galaxies at < 50 Mpc allows us to construct a dense light curve of SNe that occurred in our target galaxies. We observed two SNe IIP, SN2014cx and SN2017eaw and measured