Session:	**[B4A-4] S4 : Galaxies, AGN and Cosmology**
Date:	August 21, 2014 (Thursday)
Time:	11:00~12:30
Room:	Room D (Room 105~106)
Chair:	Grant J. Mathews (University of Notre Dame)

[B4A-4-1] **11:00~11:20**

[Invited] Application of Cepheids in Distance Scale: Extending to Ultra-Long Period Cepheids

Chow-Choong Ngeow (National Central University, Taiwan)

Classical Cepheids (hereafter Cepheids) belong to a class of important variable stars that can be used to determine distance to nearby galaxies via the famous period-luminosity (P-L) relations, i.e. the Leavitt Law. In turn, these distances can then be used to calibrate a host of secondary distance indicators that located well within the Hubble flow, and ultimately determine the Hubble constant independent of the CMB measurements with WMAP and/or Planck. In this talk, I first review recent work on the calibration of the Cepheids P-L relations, followed by summarizing some recent progress in determining the Hubble constant to within ~3% level via the cosmic distance scale ladder. In second part of the talk, I will discuss the prospect of using ultra-long period Cepheids (ULPC) in future distance scale work. ULPC are those Cepheids with periods longer than 80 days, and seems to follow a different P-L relation than their shorter period counterparts. About 30 ULPCs have been identified in Magellanic Clouds, nearby dwarf galaxies and spiral galaxies. It has been suggested that ULPC can be used to determine the Hubble constant in "one-step". Analysis of the properties of this ULPC sample will be summarized.

[B4A-4-2] **11:20~11:35**

Variability of Broad Absorption Lines in a QSO SDSS on Multi-year Timescales

Weihao Bian (Nanjing Normal University, China) and Zhicheng He

The variability of a BAL QSO at z = 2.719 is investigated, with 18 SDSS/BOSS spectra covering 4128 days in the observed frame. With the ratio of the rms spectrum to the mean spectrum, the relative flux change of the BAL-trough is larger than that of the emission lines and the continuum. We calculate the EW for different epochs, as well as the continuum luminosity and the spectral index. It is found that there is a strong correlation between the BAL-trough EW and the spectral index, and a weak negative correlation between the BAL-trough EW and the continuum luminosity, suggesting that dust is intrinsic to outflows and the BAL-trough variation is not dominated by photoionization.

[B4A-4-3] **11:35~11:50**

On The Long Time Spectral Variability Of NGC 5548

N. Z. Ismailov (Shamakhy Astrophysical Observatory Azerbaijan of NAS, Azerbaijan) and U. Z. Bashirova

We have investigated a long time variability of intensities of the broad-line region emission lines in the UV spectrums of Seyfert I galaxy NGC 5548 for 1973-1996. The spectral material we were taken from IUE archive. A spectral range is λ1000-3000 ÅÅ and a spectral resolution is at 6 Å. In this report we have presented results of researches the time variability of spectral line intensities for SiIV/OIV 1400, CIV 1550, HeII1640, CIII] 1909 and MgII 2800. Moreover we have controlled flux variations in the continuum for the 6 wavelength in this spectral range. In this study we have got following results: 1)a high level correlation between intensities of emission lines as well as between intensities of emission lines and continuum fluxes was discovered. With increasing of wavelength a correlation in both cases are standing weaker, 2)the relationship between the intensity of emission lines and the flux radiation in the continuum can be expressed by the power function with power coefficient α~0.8-1.1 for different lines. When the difference between

wavelengths of spectral lines and continuum is increases, the power coefficient is decreased, 3)it was found that the amplitude of variability of the line intensities is weaker than the continuum flux amplitude of variability. The amplitude of variability both in the intensities of lines and in the continuum flux radiation are increased for the longer wavelength range.

[B4A-4-4] **11:50~12:05**

Dynamics of Elliptical Galaxies in the Framework of MOdified Newtonian Dynamics

Chung-Ming Ko (National Central University, Taiwan) and Yong Tian

Planetary nebula in elliptical galaxies posed a problem in dark matter theory. Using data from Planetary Nebula Spectrograph (PN. S), Romanowsky et al. (2003) reported that less than expected dark matter were found in three elliptical galaxies. We revisit this problem using MOdified Newtonian Dynamics (MOND), an alternative to dark matter paradigm. We collect 22 elliptical galaxies with planetary nebulae from the PN. S. We adopt Hernquist model for the elliptical galaxies and find that MOND explains the observations well. We also compare the results with the ones from Newtonian dynamics.

Poster Session **12:05~12:30**

Chair: **Grant J. Mathews** (University of Notre Dame)