

**[IM-02] The spatially resolved mid-infrared emissions in BD+30 3639**

In-Ok Song<sup>1</sup>, Thomas R. Geballe<sup>2</sup>, and Hyungmok Lee<sup>1</sup>

<sup>1</sup>*Department of Physics and Astronomy, Seoul National University,* <sup>2</sup>*Gemini Observatory, Hilo Hawai'i, U.S.*

We present the mid-infrared emissions from the planetary nebulae, BD+30 3639 whose spectra are obtained from MICHELLE instrument at GEMINI-North Telescope (8m) covering 7.5 ~ 13.2 $\mu$ m. The prominent broad emissions appear at 7.7 $\mu$ m, 8.6 $\mu$ m and 11.3 $\mu$ m wavelength along with the strong NeII 12.8 $\mu$ m line. Those three emissions are unidentified yet, but PAH molecules and their derivatives are likely to be candidates. In order to help to identify these features, we probe into infrared emissions at high angular resolution and to analyse their dependences on location in the nebula of the strengths and profile shape. We investigate 1) the relative band intensity ratio and profile shape, 2) the degree of asymmetry for the 11.3 $\mu$ m feature and 3) a puzzling 12 $\mu$ m broad continua as a function of the distance from the central star. Specific PAH candidates along spatial distribution will be discussed.

**[IM-03] Statistical Properties of the diffuse far-ultraviolet continuum radiation**

Kwangil Seon

*Korea Astronomy and Space Science Institute*

The far-ultraviolet (FUV) continuum background at the wavelength longer than Ly $\alpha$  has been extensively observed (e.g., with FIMS), but the observations at the band shortward of Ly $\alpha$  have been scarce. The diffuse FUV radiation longward of Ly $\alpha$  is generally believed to correlates with the dust 100  $\mu$ m emission. However, it has been known that the diffuse FUV radiation shortward of Ly $\alpha$  shows a weak correlation with the 100  $\mu$ m emission, but shows large variations, probably due to differences in the local radiation field. We reexamine observations of the diffuse FUV radiation by the FUSE (Far Ultraviolet Spectroscopic Explorer) to investigate a correlation between the diffuse FUV radiation shortward of Ly $\alpha$  and 100  $\mu$ m emission. We find that the quantities show a better correlation in the logarithmic scale than in the linear scale.