

An optical spectroscopy of the Mira type variable stars

Young Sam YU^{1,2}, Hyun-il Sung², Yong-Sun Park¹, Eon-Chang Sung², Sang-Gak Lee¹

¹*Astronomy program, School of Earth and Environmental Sciences,
Seoul National University*

²*Korea Astronomy Observatory*

We had observed 40 Mira variables from May 2000 to May 2002 in the visual region ($\lambda 5000\text{\AA} - 7900\text{\AA}$) with the medium dispersion spectrograph at BOAO. Mira variables are brighter than 2 - 2.5mag in visual region with periods of a year, more or less. We analyzed two types of Mira variables: carbon rich stars and oxygen rich stars. We derived the equivalent widths of strong atomic lines and molecular bands and investigated correlation with the sub-spectral types of the Mira. The correlation between equivalent widths and sub-types of Mira variables will reveal the chemical and physical properties of a star's atmosphere and suggest to deductions about its interior and evolutionary state.