

[JGC-41] Monitoring observation of PG0934+013 using The Southern African Large Telescope

Dawoo Park¹, Jong-Hak Woo¹, Encarni Romero-Colmenero², Steven M. Crawford²,
Aaron J. Barth³, Liuyi Pei³

¹*Dept. of physics and astronomy, Seoul National University,* ²*South African
Astronomical Observatory,* ³*Dept. of physics and astronomy, University of
California, Irvine*

We performed spectroscopic and photometric monitoring observations of a QSO, PG0934+013 for a reverberation-mapping analysis, using the 9-m Southern African Large Telescope (SALT) for spectroscopy and the 2-m Faulkes Telescope North and the South for photometry. The monitoring campaign was carried out for 5 month between December 2012 to April 2013, providing 20 spectroscopic epochs and ~ 40 photometric epochs. Based on the obtained spectra, which typically have a signal-to-noise ratio to 30-60, we performed multicomponent decomposition using various components, i.e., power-law continuum, FeII emission complex, and broad and narrow emission lines, to properly measure the Hbeta line flux. After a flux normalization using [O III] 5007 line luminosity, we obtained a rms spectrum from all epochs, which shows clear variability of Hbeta line. We find that Hbeta line flux decreases by $\sim 20\%$ during the monitoring period while the continuum flux obtained from the aperture photometry based on the imaging data, shows similar variability.

The current Hbeta light curve shows monotonic decrease and a reliable cross correlation analysis between Hbeta and continuum light is difficult. Nevertheless, we obtained a preliminary lag measurements as ~ 24 light days.