

R14b **Observational study of new SDSS gravitationally lensed quasars with the Subaru Telescope Adaptive Optics**

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62 gravitationally lensed quasars (GLQ) have been discovered in the SDSS survey so far (Inada et al 2012, AJ, 143, 119), which constitutes about half of all known GLQs. These objects serve as probes into the structure of massive galaxies (Rusin & Kochanek 2005, ApJ, 623, 666), their evolution, as well as cosmology (Oguri et al. 2012, AJ, 143, 120). High resolution follow-up observations are necessary in order to enable full use of this sample of quasars, as resolution is crucial for obtaining accurate gravitational lens models.

In 2011, we have started a campaign (Rusu et al 2011, ApJ, 738, 30) to perform Laser Guide Star Adaptive Optics observations of a large number of the SDSS GLQs with the Subaru Telescope. So far, we have observed 13 GLQs under varying weather conditions, in a combination of engineering mode, guaranteed time and open use observations. In this Poster, we show our target observation strategy, data reduction and related issues, as well as the improvement obtained over the initial, low-resolution data.