

## Astrophysics &gt; Cosmology and Extragalactic Astrophysics

# Two Lensed $z \sim 3$ Lyman Break Galaxies Discovered in the SDSS Giant Arcs Survey

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We report the discovery of two strongly-lensed  $z \sim 3$  Lyman Break Galaxies (LBGs) discovered as u-band dropouts as part of the SDSS Giant Arcs Survey (SGAS). The first, SGAS J122651.3+215220 at  $z = 2.9233$  is lensed by one of several sub-clusters, SDSS J1226+2152, in a complex massive cluster at  $z = 0.43$ . Its (g, r, i) magnitudes are (21.14, 20.60, 20.51) which translate to surface brightnesses,  $\mu_{\{g,r,i\}}$ , of (23.78, 23.11, 22.81). The second, SGAS J152745.1+065219, is an LBG at  $z = 2.7593$  lensed by the foreground SDSS J1527+0652 at  $z = 0.39$ , with (g, r, z)=(20.90, 20.52, 20.58) and  $\mu_{\{g,r,z\}}=(25.15, 24.52, 24.12)$ . Moderate resolution spectroscopy confirms the redshifts suggested by photometric breaks, and shows both absorption and emission features typical of LBGs. Lens mass models derived from combined imaging and spectroscopy reveal that SGAS J122651.3+215220 is a highly magnified source ( $M \sim 40$ ), while SGAS J152745.1+065219 is magnified by no more than  $M \sim 15$ . Compared to LBG survey results (Steidel et al. 2003), the luminosities and lensing-corrected magnitudes suggest that SGAS J122651.3+215220 is among the faintest 20% of LBGs in that sample. SGAS J152745.1+065219, on the other hand, appears to be more representative of the average LBG, similar to the "Cosmic Eye".

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