

R20a      **Environments and Line-of-Sight Structure of Strong Gravitational Lens Galaxies to  $z \sim 0.8$**

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We investigate the local and line-of-sight overdensities of strong gravitational lens galaxies using wide-area multiband imaging from the Hyper Suprime-Cam Subaru Strategic Program, including new lens candidates discovered in Data Release 2 of the survey. We compare galaxy number counts in lines of sight toward known and newly-discovered lenses in the survey to those of a control sample consisting of random lines of sight. We also compare the local overdensity of lens galaxies to a sample of “twin” galaxies that have a similar redshift and velocity dispersion to test whether lenses lie in different environments from similar non-lens galaxies. We find that lens fields contain higher number counts of galaxies compared to the control fields, but this effect arises from the local environment of the lens. Once galaxies in the lens plane are removed, the lens lines of sight are indistinguishable from the control sample. The local environments of the lenses are overdense compared to the control sample, but are similar to those of the twin sample, showing that lenses reside in local environments that are representative of the underlying population of galaxies of similar mass and redshift.