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# COLOR–DENSITY RELATION OF GALAXIES IN THE REDSHIFT REGION OF $0.60 < z < 0.75$[1]

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In this work, I construct a LRG sample with the redshift of $0.6 \leq z \leq 0.75$ from the Sloan Digital Sky Survey Data Release 15 (SDSS DR15), which contains 184172 CMASS LRGs and 27158 eBOSS LRGs and examine the environmental dependence of the u–r, u–g, g–r, r–i and i–z colors in this galaxy sample. I divide this LRG sample into subsamples with a redshift binning size of $\Delta z = 0.01$, and analyze the environmental dependence of the u–r, u–g, g–r, r–i and i–z colors for these subsamples in each redshift bin. Overall, the u–r, u–g, g–r and r–i colors of galaxies in LRG sample with the redshift of $0.6 \leq z \leq 0.75$ are very weakly correlated with the local environment, which shows that minimal environmental dependence of galaxy parameters can continue to higher redshifts. It is noteworthy that i–z color of this CMASS + eBOSS LRG sample shows substantial correlation with the local environment in the redshift region $0.70 \leq z \leq 0.75$.

*Keywords:* Galaxy: fundamental parameters–galaxies: statistics.

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