Feasibility of DESI: Bright Galaxy Survey

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ABSTRACT

testing

Subject headings: cosmology: observations —

1. Introduction

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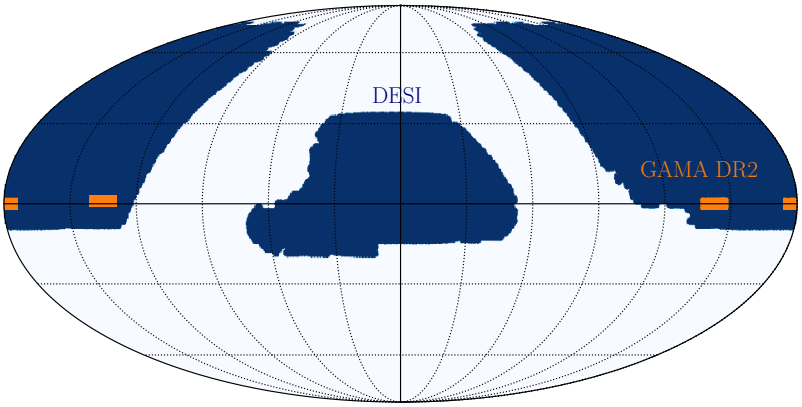

Fig. 1.— Footprint of GAMA DR2 (orange) overplotted on the DESI footprint (blue). This highlight that the GAMA galaxies are within the DESI footprint. This makes them an excellent sample to assess the feasibility of BGS.

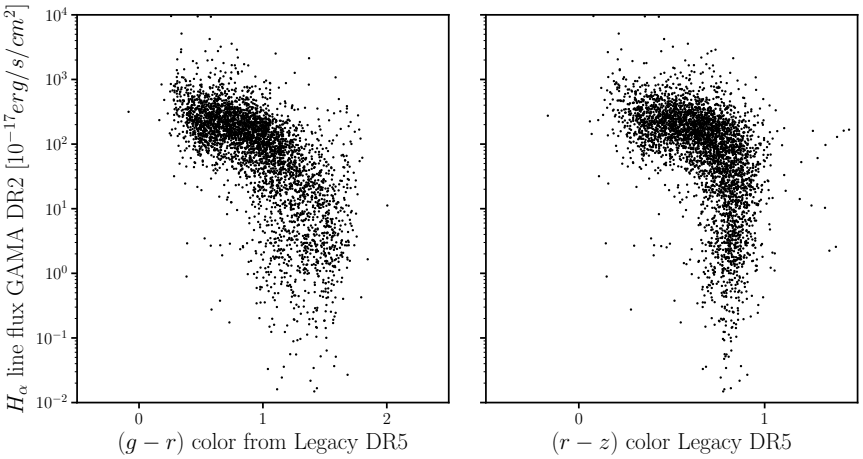

Fig. 2.— $(g-r)$ and $(r-z)$ colors to H_α line flux relations for galaxies that are in both the GAMA DR 2 and the Legacy survey DR 5. The $(g-r)$ and $(r-z)$ colors are calculated from the Legacy survey DR 5 model flux. Meanwhile the H_α line flux is from the GAMA DR 2, where they fit a Gaussian to the emission line. For convenience, the galaxy sample is downsampled by a factor of 10.

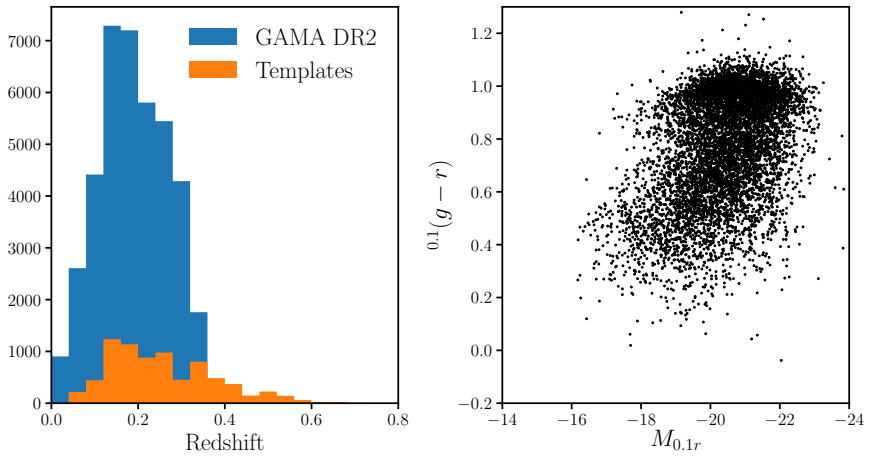

Fig. 3.— Properties of the 7636 BGS templates. The left is the redshift distribution of the templates while the right plots the M_r versus $(g-r)$ color magnitude relation of the templates. Both M_r and $(g-r)$ values are k-corrected to $z = 0.1$.

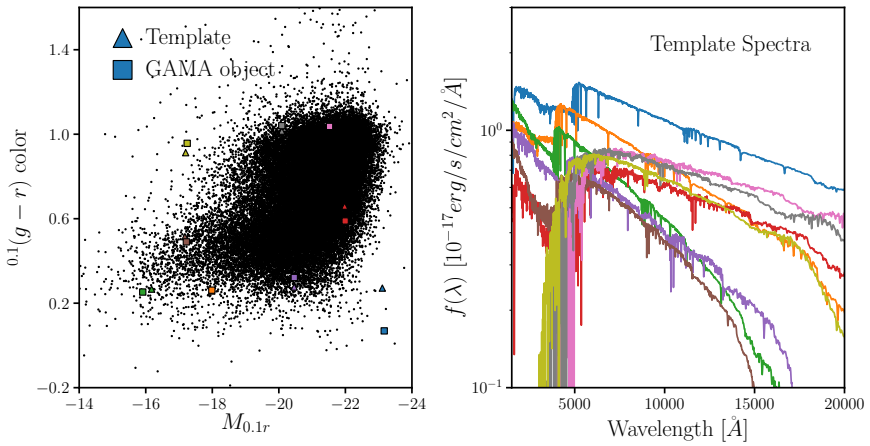

Fig. 4.— A handful of GAMA DR2 galaxies are randomly selected then matched to templates with the closest redshift, r band absolute magnitude ($M_{0.1,r}$), and $^{0.1}(g-r)$ color. The left panel plots the $M_{0.1,r}$) to $^{0.1}(g-r)$ color relation of the GAMA DR2 galaxies with the randomly selected galaxies highlighted (square). The matched templates are marked with same color (triangle). In the right panel, spectra for the match templates are plotted in the same color.