Title:	Galaxy and mass assembly (GAMA): Trends in galaxy colours, morphology, and stellar populations with large-scale structure, group, and pair environments
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Abstract:	We explore trends in galaxy properties with Mpc-scale structures using catalogues of environment and large-scale structure from the Galaxy And Mass Assembly (GAMA) survey. Existing GAMA catalogues of large-scale structure, group, and pair membership allow us to construct galaxy stellar mass functions for different environmental types. To avoid simply extracting the known underlying correlations between galaxy properties and stellar mass, we create a mass matched sample of galaxies with stellar masses within 9.5 ≤ logM*/h-2M⊙ ≤ 11 for each environmental population. Using these samples, we show that mass normalized galaxies in different large-scale environments have similar energy outputs, u - r colours, luminosities, and morphologies. Extending our analysis to group and pair environments, we show that galaxies that are not in groups or pairs exhibit similar characteristics to each other regardless of broader environment. For our mass controlled sample, we fail to see a strong dependence of Sérsic index or galaxy luminosity on halo mass, but do find that it correlates very strongly with colour. Repeating our analysis for galaxies that have not been mass controlled introduces and amplifies trends in the properties of galaxies in pairs, groups, and large-scale structure, indicating that stellar mass is the most important predictor of the galaxy properties we examine, as opposed to environmental classifications.
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