Title:	Galaxy And Mass Assembly (GAMA): the effect of galaxy group environment on active galactic nuclei
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Abstract:	In galaxy clusters, efficiently accreting active galactic nuclei (AGNs) are preferentially located in the infall regions of the cluster projected phase-space, and are rarely found in the cluster core. This has been attributed to both an increase in triggering opportunities for infalling galaxies, and a reduction of those mechanisms in the hot, virialized, cluster core. Exploiting the depth and completeness (98 per cent at r < 19.8 mag) of the Galaxy And Mass Assembly survey (GAMA), we probe down the group halo mass function to assess whether AGNs are found in the same regions in groups as they are in clusters. We select 451 optical AGNs from 7498 galaxies with log10(M*/M⊙) > 9.9 in 695 groups with 11.53 ≤ log10(M200/M⊙) ≤ 14.56 at z < 0.15. By analysing the projected phase-space positions of these galaxies, we demonstrate that when split both radially, and into physically derived infalling and core populations, AGN position within group projected phase-space is dependent on halo mass. For groups with log10(M200/M⊙) > 13.5, AGNs are preferentially found in the infalling galaxy population with 3.6σ confidence. At lower halo masses, we observe no difference in AGN fraction between core and infalling galaxies. These observations support a model where a reduced number of low-speed interactions, ram pressure stripping and intra-group/cluster medium temperature, the dominance of which increase with halo mass, work to inhibit AGN in the cores of groups and clusters with log10(M200/M⊙) > 13.5, but do not significantly affect nuclear activity in cores of less massive structures.
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