

Abstract Submitted  
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**Comparing the spatial distributions of HMXBs and star-forming regions in the Small Magellanic Cloud** RYAN AGNEW, BRENTON JACKSON, ARASH BODAGHEE, ZACH JORDAN, ERIC FRECHETTE, Georgia College State Univ, V. ANTONIOU, A. ZEZAS, J.A. TOMSICK, None — Initial results are presented comparing the spatial distribution of high-mass X-ray binaries (HMXBs) and massive stellar nurseries (OB associations) in the Small Magellanic Cloud (SMC). The analysis involves constructing the two-point cross-correlation function (Landy-Szalay) between pairs of 72 HMXBs and 234 OB associations with the latter being randomly reshuffled following a homogenous distribution, a Gaussian distribution, and exponential disk distribution, and a distribution that mimics the star-formation history of the SMC. We find a significant correlation between the observed HMXB and OB catalogs compared with a random catalog in which the OB associations are distributed homogeneously across the SMC field. On average, within a 0.5 kpc of a given HMXB, there are 4 OB associations from the observed catalog for every one from the randomized catalog. There is no significant difference when comparing the HMXBs with the observed catalog versus the random catalog in which the OB distribution traces the star-formation history. This suggests that HMXBs in the SMC have had less time to migrate away from their birthplaces (or, alternatively, that they have a lower average velocity) than HMXBs in the Milky Way.

Ryan Agnew  
Georgia College  
State Univ

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