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A quantum Monte Carlo study of magnetism in the frustrated Hubbard model¹ MATTHEW ENJALRAN, Department of Physics, Southern CT State University, New Haven, Connecticut — Motivated by the observation of complex phases in materials with quasi-two-dimensional triangular lattice structures, $Na_x CoO_2 \cdot yH_2O$ and κ -(ET)₂X, where nearest neighbor interactions are frustrated, we investigate the magnetic correlations in the 2D Hubbard model using constrained path quantum Monte Carlo. In order to develop our understanding of the effect of geometric frustration on the magnetic correlations in an itinerant electron model, we report results for the square and triangular lattice geometries at half-filling.

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