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Studying Variance in the Galactic Ultra-compact Binary Population SHANE LARSON, Northwestern University/Adler Planetarium, KATELYN BREIVIK, Northwestern University — In the years preceding LISA, Milky Way compact binary population simulations can be used to inform the science capabilities of the mission. Galactic population simulation efforts generally focus on high fidelity models that require extensive computational power to produce a single simulated population for each model. Each simulated population represents an incomplete sample of the functions governing compact binary evolution, thus introducing variance from one simulation to another. We present a rapid Monte Carlo population simulation technique that can simulate thousands of populations on week-long timescales, thus allowing a full exploration of the variance associated with a binary stellar evolution model.

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