1135-55-112 **Rae Helmreich*** (`helmreich_rae@wheatoncollege.edu`), **Anchala Krishnan**, **Nathan Schmitz** and **John Meier**. *Persistent homology and probabilistic models of the Gaussian primes.* Preliminary report.

Ilan Vardi introduced a probabilistic model for the distribution of Gaussian primes, thought of as a point cloud in $\mathbb{R}^2$. We compare patterns in the persistent homology of the Gaussian primes versus Vardi's probabilistic model, as well as two additional models, for the primes out to $|z| \leq 200$. The first homology provides statistical evidence that the models miss geometric features of the Gaussian primes. (Received July 28, 2017)