1163-F1-679 **Samantha K Fairchild***, skayf@uw.edu. *Counting social interactions for discrete subsets of the plane.*

Given a discrete subset V in the plane, how many points would you expect there to be in a ball of radius 100? What if the radius is 10,000? When V arises as orbits of non-uniform lattice subgroups of SL(2,R), we can understand asymptotic growth rate with error terms of the number of points in V for a broad family of sets. A crucial aspect of these arguments and similar arguments is understanding how to count pairs of saddle connections with certain properties determining the interactions between them, like having a fixed determinant or having another point in V nearby. We will focus on a concrete case used to state the theorem and highlight the proof strategy. (Received September 11, 2020)