1154-06-1495 **Bryan R. Gillespie***, brg008@gmail.com. *Discrete Convexity and the Active Matroid Orders.*

In this talk we will discuss the properties of the *external order*, a poset on the independent sets of an ordered matroid which refines the geometric lattice of flats. If $M$ is an ordered matroid, then the *external active closure function* is defined in terms of external matroid activity. We show that this closure function is anti-exchange, and thus defines a discrete abstraction of the notion of convexity, known as a *convex geometry*. The inclusion relation on its closed sets induces a lattice structure on the independent sets of $M$ which is meet-distributive and supersolvable. We will additionally give a complete characterization of the lattices which arise from an ordered matroid by this construction. (Received September 15, 2019)