1135-37-1017 **David M McClendon*** (mcclend2@ferris.edu), Department of Mathematics, ASC 2021, Big Rapids, MI 49307, and **Aimee S.A. Johnson** (aimee@swarthmore.edu), Department of Mathematics & Statistics, 500 College Ave., Swarthmore, PA 19081. *Speedups of $\mathbb{Z}^d$-odometers.* Preliminary report.

A speedup of dynamical system (X, T) is a system (X, T^p) where $p : X \to \{1, 2, 3, ...\}$. The big-picture question surrounding this talk is whether, given two dynamical systems, there exists a speedup of the first system which is isomorphic to the second. In the measure-preserving category, Arnoux, Ornstein and Weiss showed that given any two ergodic transformations, there exists a speedup of one system (where the p is measurable) which is isomorphic to the second. In the topological category, things are more interesting; Ash proved that given two Cantor minimal systems, whether or not such a speedup exists depends on the dimension groups of the systems. Furthermore, Alvin, Ash and Ormes recently showed that any bounded speedup of an odometer is an odometer that is conjugate to the original odometer.

In the early 2010s, Johnson and McClendon extended the notion of speedup to actions of $\mathbb{Z}^d$, and proved an analogue of the Arnoux et al. result. In this talk, we discuss speedups of $\mathbb{Z}^d$-odometers; we show that as with $\mathbb{Z}$-odometers, a speedup of a $\mathbb{Z}^d$-odometer must be an odometer, but unlike the $\mathbb{Z}$ case, the speedup need not be topologically conjugate to the original system. (Received September 18, 2017)