

1125-37-1608

Lori Alvin, lalvin@bradley.edu, **Drew D Ash***, drash@davidson.edu, and **Nic Ormes**,
normes@du.edu. *Bounded Topological Speedups*.

Given a dynamical system (X, T) one can define a speedup of (X, T) as another dynamical system $S : X \rightarrow X$ where $S = T^{p(\cdot)}$ for some $p : X \rightarrow \mathbb{Z}^+$. In 2015, the speaker gave necessary and sufficient conditions for a minimal Cantor system to be a topological speedup of another minimal Cantor system. Through this theorem, one can show speedups need not stay in the same topological orbit equivalence class of the original system. In this talk, we will focus on recent joint work with Lori Alvin and Nic Ormes on a strengthening of topological speedups, namely bounded topological speedups. In this case, we require that our “jump function” p be bounded and hence continuous. Here the motivating question is: what, if anything, can be preserved with the added structure of p being bounded? We will highlight two theorems which yield positive answers to this question. Specifically, a bounded speedup of an odometer is a conjugate odometer and a bounded speedup of an aperiodic, primitive substitution is again an aperiodic, primitive substitution, though is never conjugate to the original substitution system. (Received September 18, 2016)