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Steve Kass and **Kathleen Madden*** (kmadden@drew.edu), Department of Mathematics & Computer Science, Drew University, Madison, NJ 07940. *A Sufficient Condition for Non-Soficness in Higher Dimensions.*

Shift spaces are sets of infinite words of symbols (or in the case of higher dimensions, infinite arrays of symbols) that model the evolution of discrete systems. Of particular interest are the shifts of finite type; these shift spaces are defined by a finite collection of forbidden patterns, and they find multiple applications in computer science and in modeling other dynamical systems. Factors of shifts of finite type are called sofic systems, and in one dimension, sofic systems are well understood. In particular, there is a complete characterization of soficness in one-dimension. There are no such characterizations in higher dimensions. In this talk we will give a condition that implies non-soficness in higher-dimensional shift spaces, and we will apply it to a variety of examples. (Received November 25, 2012)