## 1120-15-129 **Jephian C.-H. Lin\*** (chlin@iastate.com), Department of Mathematics, Iowa State University, Ames, IA 50011. Using a new zero forcing process to guarantee the Strong Arnold Property.

A given symmetric matrix A is said to have the Strong Arnold Property (SAP) if the zero matrix is the only symmetric matrix X that satisfies  $A \circ X = O$ ,  $I \circ X = O$ , and AX = O. The SAP plays a key role in ensuring the minor-monotonicity of the Colin de Verdière type parameters  $\mu$ ,  $\nu$ , and  $\xi$ . To understand the SAP, the connection between the zero-nonzero pattern of a symmetric matrix and the adjacency of a simple graph provides important information. In this talk, a method of using the graph structure to guarantee the SAP will be introduced, with the help of the zero forcing process. (Received February 18, 2016)