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Kelly Pearson* (kpearson@murraystate.edu), Mathematics Department, Faculty Hall, Murray State University, Murray, KY 42071. *Spectral hypergraph theory of the adjacency tensor and matroids.*

We define a matroid from an m -uniform hypergraph. Spectral properties of the adjacency tensor which can be deduced from the matroid are investigated. In particular, relationships between the coordinates of eigenvectors are revealed in terms of circuits of the matroid. It is expected that these relationships will lead to a better initial input vector on the interior of the positive cone for numerical calculations of Z -eigenvalues using the SS-HOPM method and for H -eigenvalues when using the NQZ method. (Received August 14, 2015)