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*Realization spaces for matroids.*

Matroids are a well-studied combinatorial abstraction of linear independence in vector spaces. When studying a given matroid, one could ask whether or not the matroid is realizable by a collection of vectors in a vector space. Additionally, one could study algebraic varieties whose points are in correspondence with sets of vectors which produce the same matroid, called realization spaces of the matroid. In this talk, we discuss the algebraic, geometric, and combinatorial properties of a new realization space for matroids, obtained from the hyperplane incidence matrix of a matroid. This is based on joint work with Amy Wiebe. (Received February 02, 2018)