Separoids: a Characterization of Linear Uniform Acyclic Oriented Matroids

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A separoid is an independence relation in the family of subsets of a given set. In particular, oriented matroids are separoids. Sice every acyclic separoid araises from a family of convex sets, oriented matroids do. The geometric dimension of a separoid is the minimum where it can be realized as a family of convex sets. The main theorem of this talk is: An uniform acylic oriented matroid is linear if and only if its geometric dimension is the same that its combinatorial one.