Ting Su (Binghamton)

The Bergman Complex of a Matroid and Its Natural Subdivision

Abstract for the Combinatorics Seminar 2013 November 12

I will introduce the Bergman complex of matroid and its combinatorial and geometric properties. First I'll introduce the collection of bases of minimum weight of a matroid with respect to a weight vector and show that this collection is itself the collection of bases of a matroid. Then I will show that, appropriately subdivided, the Bergman complex of a matroid M is the order complex of the proper part of the lattice of flats of the matroid.

This is from a 2005 paper by Federico Ardila and Caroline J. Klivans, “The Bergman complex of a matroid and phylogenetic trees” (Journal of Combinatorial Theory Series B 96 (2006), no. 1, 38-49; arXiv:math/0311370).
