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**Ethan Kowalenko** and **Carl Mautner\*** ([carlm@ucr.edu](mailto:carlm@ucr.edu)). *Category  $\mathcal{O}$  for oriented matroids*. Preliminary report.

Braden-Licata-Proudfoot-Webster defined a class of finite-dimensional graded algebras associated to linear programs, meaning real hyperplane arrangements with a choice of linear functional. The representation theory of these algebras behaves much like integral blocks of Bernstein-Gelfand-Gelfand's category  $\mathcal{O}$ . For example the algebras are quasi-hereditary and Koszul.

I will review the set-up and then discuss joint work with Ethan Kowalenko, in which we extend the definition of Braden-Licata-Proudfoot-Webster to the more general combinatorial setting of oriented matroid programs. Our results are part of a larger program of the speaker with Jens Eberhardt to categorify matroidal Schur algebras, introduced in joint work with Tom Braden. (Received January 19, 2020)