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*Convex combinations of chromatic symmetric functions*

The notion of chromatic polynomials for graphs can be extended naturally in two directions: first refine it to a symmetric function instead of a polynomial, then define it for posets in addition to graphs. On the plus side, a number of interesting questions fall out of this generalization, including Stanley and Stembridge's e-positivity conjecture for  $(3+1)$ -free posets. On the minus side, we lose the ability to use the deletion-contraction algorithm. In this talk, we'll see a (weaker) replacement for deletion-contraction and use it to make some progress on the e-positivity conjecture.