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Positroids? Did you say "Positroids"?

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Well, actually, Alex Postnikov said “positroid” – don't blame me. These are matroids on [n] which can be realized over **R** by a matrix with all maximal minors nonnegative. They arise in the study of the totally nonnegative part of the Grassmannian, which in turn arises in applications in physics.

Closely related are *positively oriented matroids*. A positively oriented matroid is an oriented matroid of rank d on [n] which, up to reorientation, has a chirotope which is nonnegative on all increasing d-tuples. Thus a positroid could also be defined as the underlying matroid of a realizable positively oriented matroid.

I'll present a recent result of Ardila, Rincón, and Williams: *all positively oriented matroids are realizable*. Together with earlier work of da Silva, this leads to a simple combinatorial characterization of positroids. The proof makes elegant use of matroid basis polytopes.
