

Sparse paving matroids, basis-exchange properties, and cyclic flats

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We provide evidence for five long-standing, basis-exchange conjectures for matroids by proving them for the enormous class of sparse paving matroids. We also explore the role that these matroids may play in the following problem: as a function of the size of the ground set, what is the greatest number of cyclic flats that a matroid can have?

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