



Sperner property and finite-dimensional Gorenstein algebras associated to matroids

Toshiaki Maeno, Yasuhide Numata

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We prove the Lefschetz property for a certain class of finite-dimensional Gorenstein algebras associated to matroids. Our result implies the Sperner property of the vector space lattice. More generally, it is shown that the modular geometric lattice has the Sperner property. We also discuss the Gröbner fan of the defining ideal of our Gorenstein algebra.

Comments: New section on modular geometric lattices

Subjects: **Commutative Algebra (math.AC)**; Combinatorics (math.CO)

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