

# The strong Lefschetz property for Artin Gorenstein algebras associated to matroids

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## **Abstract**

We consider a certain class of finite-dimensional Gorenstein algebras associated to matroids. We show the Lefschetz property in the case where the matroid corresponds to a modular geometric lattice. Our result implies that the modular geometric lattice has the Sperner property. We also discuss the Grober fan of the defining ideal of our Gorenstein algebra.