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*Stability of Powers of Cover Ideals of Hypergraphs*

We introduce a family of hypergraphs and study the associated primes of their cover ideals and their stability.

This family of hypergraphs provides an answer to the question arisen in 2010 by C. Francisco, T. Há, and A. Van Tuyl in their paper “Colorings of Hypergraphs, Perfect Graphs, and Associated Primes of Powers of Monomial Ideals”.

Does there exist a family of hypergraphs  $\{\mathcal{H}_n\}_{n \in \mathbb{N}}$  such that

$$\text{astab}(J(\mathcal{H}_n)) \geq (\chi(\mathcal{H}_n) - 1) + n$$

For all  $n \in \mathbb{N}$ ?

Later in 2013, A. Bhat, J. Biermann, and A. Van Tuyl introduced a family of hypergraphs which satisfies the inequality. In our work we find a new family of hypergraphs for which we can replace the inequality by equality.