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Kuei-Nuan Lin* (klin@smith.edu) and **Paolo Mantero**. *Projective Dimension of Hypergraphs*. Preliminary report.

We find an exclusive formula to compute the projective dimension of square-free monomial ideals. We associate square-free monomial ideals with hypergraphs that is first introduced by Kimura-Terai-Yoshida. We write the projective dimension of string or cycle hypergraphs in terms of invariants of hypergraphs. As an application, we characterize all the string or cycle hypergraphs whose associated square-free monomial ideals are Cohen-Macaulay. This is joint work with Paolo Mantero. (Received September 14, 2013)