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**Adam Boocher\***, aboocher@math.berkeley.edu. *Resolutions of Sparse Determinantal Ideals.*

In 1982, Giusti and Merle studied matrices whose entries are distinct variables and zeros. In particular, they studied the ideal of maximal minors, and showed that many invariants depended only on the size of the biggest rectangle of zeros. In this talk, I'll present a technique for computing the minimal free resolution of these ideals. As a consequence we can show that the ideals studied by Merle and Giusti all have a linear resolution, and that the projective dimension depends only on the number of columns of the matrix which are identically zero. Along the way, we'll discuss related questions - Gröbner bases, initial ideals, and their free resolutions. (Received September 24, 2012)