1120-14-82 **Grigoriy Blekherman** and **Rainer Sinn*** (sinn@math.gatech.edu), Georgia Institute of Technology, School of Mathematics, 686 Cherry Street NW, Atlanta, GA 30332, and **Mauricio Velasco**. *Matrix completion, free resolutions, and sums of squares.* Preliminary report.

I will discuss a matrix completion problem arising in combinatorial statistics and explain how we can use results in algebraic geometry (or combinatorial commutative algebra) to understand it better. The object linking the two different areas is the cone of sums of squares and its properties as a convex cone. (Received February 13, 2016)