1124-14-171 **Grigoriy Blekherman*** (greg@math.gatech.edu), **Daniel Plaumann**, **Rainer Sinn** and **Mauricio Velasco**. *Matrix Completion and Sum-of-Squares Length.* Preliminary report.

For a projective variety X with coordinate ring R let p(X) denote the least number such that any sum of squares of linear forms in R can be written as p(X) many squares. When X is defined by a square-free quadratic monomial ideal determining p(X) corresponds to low-rank positive semidefinite matrix completion. I will present some new bounds on p(X) and explain the connection to matrix completion and distance realization problems. (Received September 07, 2016)