1067-15-506 **Wasin So*** (so@math.sjsu.edu), Department of Mathematics, San Jose State University, San Jose, CA 95192, and **Changqing Xu**. *The cprank and rank of a completely positive matrix.* Preliminary report.

An $n \times n$ real matrix A is *completely positive* if $A = BB^T$ for some $n \times m$ entry-wise nonnegative matrix B. And the smallest m is called the *cprank* of A. The determination of *cprank* is nontrivial. Obviously, we have $rank(A) \leq cprank(A)$ for any completely positive matrix A. In this talk, we present examples of completely positive matrices A with the property $rank(A) = cprank(A)$, and discuss the problem of characterizing completely positive matrices whose *rank* and *cprank* are equal. (Received September 07, 2010)