

Doktoratskolleg Discrete Mathematics

Advanced Topics Seminar

Freitag, 22.01.2016, 10:30 Uhr

Seminarraum 2 (Geometrie), 4. Stock, Kopernikusgasse 24

**New bounds for the cp-rank
in copositive optimization**

IMMANUEL BOMZE

(Universität Wien)

In copositive optimization, it is essential to determine the minimal number of non-negative vectors whose dyadic products form, summed up, a given completely positive matrix (indeed, one of these vectors necessarily must be a solution to the original problem). This matrix parameter is called cp-rank. Since long, it has been an open problem to determine the maximal possible cp-rank for any fixed order. Now we can refute a twenty years old conjecture and show that the known upper bounds are asymptotically equal to the lower ones.

B. Klinz und DK-Koordinatoren