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András Bezdek and **Włodzimierz Kuperberg*** (kuperw1@auburn.edu). *Approximating convex disks from inside and out by parallelograms.* Preliminary report.

For each convex disk K we consider the minimum area $P(K)$ of a parallelogram containing K and the maximum area $p(K)$ of a parallelogram contained in K , then we seek the maximum of $P(K)$ and the minimum of $p(K)$ over all convex disks K of area 1. Without assuming central symmetry of K , the naturally anticipated answers will be given, but when we assume central symmetry, the problem of the maximum of $P(K)$ becomes much harder. We state a conjecture and discuss it in a quite broad context that includes the well-known, still unresolved Reinhardt Conjecture on the criticality of the smoothed octagon. (Received January 20, 2015)