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Włodzimierz Kuperberg* (kuperw1@auburn.edu). *The set of packing and covering densities of convex disks.*

For each convex disk K (a convex compact subset of the plane, with a non-void interior), its packing density $\delta(K)$ and covering density $\vartheta(K)$ form an ordered pair of real numbers, i.e., a point on the coordinate plane. The set Ω , consisting of points assigned this way to all convex disks, is the subject of this talk. A few known inequalities on $\delta(K)$ and $\vartheta(K)$ jointly outline a relatively small convex polygon that contains Ω , but the exact shape of Ω remains a mystery. We present this polygonal region, and then we explicitly exhibit a certain convex region contained in Ω and occupying a good portion of it. (Received September 08, 2010)