
HEIKO HARBORTH, Techn. Univ. Braunschweig, Germany

Integral Distances in Geometrical Figures

Can one find n points in dimension m with pairwise distances being integral (rational)? What is the minimum largest distance (diameter) for n points, for n points in semi-general position (no $m + 1$ points in a hyperplane), and for n points in general position (no $m + 1$ points in a hyperplane, no $m + 2$ points on a hypersphere)? What about a rational box? What about graph drawings in the plane with straight line edges of integral length?