Seminar on Combinatorial Computing
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Room 8404, Graduate Center
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Unit distances among the vertices of a convex polygon

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Abstract

More than forty years ago Erdos and Moser conjectured that n vertices of a strictly convex polygon determine $O(n)$ unit distances. In this talk we settle this conjecture affirmatively by proving the following generalization.

For every strictly convex domain C with smooth boundary V, we define the unit distance graph $G = (V, E)$ associated with V by connecting two points in the boundary if their distance is one. We prove that there is a way of orienting the edges of this graph in such a way that every vertex has in-degree at most 6.

For further information contact Janos Pach at pach@cims.nyu.edu, or visit our website: http://math.gc.cuny.edu/Seminars/Combinatorics.html