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Are there many distances that occur few times? (In English)

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Let x_1, \dots, x_n be points in the plane and let $\{d_1, \dots, d_k\}$ denote the different distances occurring between these points. It is known that the diameter $D := \max d_i$ occurs at most n times. The authors conject that there is at least one other d_j which occurs at most n times as well. They also state a conjecture concerning the sum of all the distances whose multiplicities are $\leq n$.

B.Kind (Bochum)

Classification:

52C10 Erdos problems and related topics of discrete geometry

Keywords:

distances in finite planar sets