

Jan Vybiral: „Dispersion of a point set - lower and upper bounds“

Abstract: Given a point cloud in the unit cube of a d -dimensional Euclidean space, its dispersion is defined as the volume of the largest axis-parallel box, which does not intersect this cloud. For a fixed integer n , we try to minimize the dispersion among the point sets of cardinality n . We review recent upper and lower bounds of this quantity, which turned to be connected to discrete geometry, probability, combinatorics, and analysis. Especially, we discuss a new lower bound obtained by a reduction to a certain combinatorial problem solved previously by Ruzinkó, Alon, and Asodi..