Dispersion - a survey of recent results and applications

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The dispersion of a point set, which is the volume of the largest axis-parallel box in the unit cube that does not intersect the point set, is an alternative to the discrepancy as a measure for certain (uniform) distribution properties. The computation of the dispersion, or even the best possible dispersion, in dimension two has a long history in computational geometry and computational complexity theory. Given the prominence of the problem, it is quite surprising that, until recently, very little was known about the size of the largest empty box in higher dimensions.

This changed in the last five years. In this survey talk we focus on recent developments and new applications of dispersion outside the area of computational geometry.