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## *Calculation of $\ell_1$-dimension in terms of Gromov–Hausdorff distance.*

In a series of works by A.O. Ivanov and A.A.Tuzhilin, the connection between the Gromov–Hausdorff distance and various combinatorial and geometric optimization problems is studied. In particular, we considered Borsuk's problem about the smallest number of parts into which a bounded subset of Euclidean space can be cut so that all parts have a smaller diameter than the original subset; about the smallest number of colors needed to correctly color the vertices of a graph; about the smallest number of cliques whose vertices cover the set of vertices of a graph. In all these problems, the required quantities are found in terms of the Gromov–Hausdorff distance between suitable finite metric spaces with one or two non-zero distances. The lengths of the edges of the minimum spanning tree in a weighted graph are calculated in a similar way. In this talk we will discuss a similar solution to the problem of calculating the so-called $\ell_1$-dimension, i.e., the smallest dimension of a vector space with Manhattan ($\ell_1$-) norm into which a given finite metric space is isometrically embedded.