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Primitive Lattice Polytopes

We introduce and study a family of polytopes which can be seen as a generalization of the permutahedron of type B_d. We highlight connections with the largest possible diameter of the convex hull of a set of points in dimension d whose coordinates are integers between 0 and k, and with a parameter controlling the computational complexity of multicriteria matroid optimization. Based on a joint work with George Manoussakis and Shmuel Onn.