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Parasite Constructions for Chiral Polytopes

Chiral polytopes are abstract polytopes with maximum rotational combinatorial symmetry. Their automorphism groups have two flag-orbits represented by pairs of adjacent flags. Regular polytopes, which are characterized by maximum combinatorial symmetry by reflection, have been well-studied, and much work has been done on their classification and groups. By contrast, relatively little is known about abstract chirality of polytopes. We report about recent progress in this area.