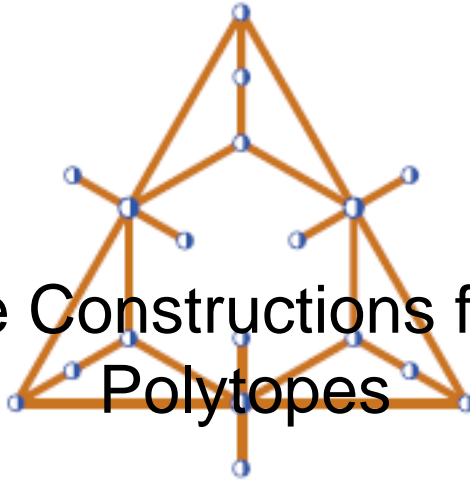


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Parasite Constructions for Chiral Polytopes



Content :

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, still relatively little is known about abstract chirality of polytopes. We report about recent progress in this area. In particular, we describe a general method for deriving new finite chiral polytopes from old finite chiral polytopes of the same rank, which then is used to construct many new examples in small ranks 3, 4 and 5. This is joint work with Antonio Breda and Gareth Jones.

Primary authors : Prof. SCHULTE, Egon (Northeastern University)

Co-authors :

Presenter : Prof. SCHULTE, Egon (Northeastern University)

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