

INVARIANTS OF THE COHOMOLOGY RINGS OF THE PERMUTOHEDRAL VARIETIES

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The permutohedron P of dimension $n - 1$ has a natural action of the symmetric group \mathfrak{S}_n , so the toric variety X associated to P , called the permutohedral variety, has the induced action of \mathfrak{S}_n . In this talk I will report that the ring of invariants $H^*(X; \mathbb{Q})^{\mathfrak{S}_\lambda}$ under the restricted action of a Young subgroup \mathfrak{S}_λ is isomorphic to the cohomology ring of the toric orbifold associated to the “quotient” polytope P/\mathfrak{S}_λ . This talk is based on joint work with T. Horiguchi, J. Shareshian and J. Song.