

1154-13-1873

Ben Blum-Smith* (ben@cims.nyu.edu) and **Sophie Marques**. *When are permutation invariants Cohen-Macaulay over all fields?*

We show that the polynomial invariants of a permutation group are Cohen–Macaulay for any choice of coefficient field if and only if the group is generated by transpositions, double transpositions, and 3-cycles, using a construction based on strict henselization and methods from combinatorial commutative algebra. This unites and generalizes several previously known results. (Received September 16, 2019)