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Matthew Titsworth* (matthew.titsworth@gmail.com) and **Tobias Hagge**. *Geometric invariants for fusion categories*.

We treat the problem of determining gauge and monoidal equivalence classes of fusion categories as one of classifying orbits of an algebraic group acting on an algebraic scheme. By applying the machinery of geometric invariant theory we develop a new class of invariants strong enough to classify arbitrary fusion categories. These invariants are computable and for a large class of fusion categories our method leads to fast algorithms for computing gauge and monoidal classes. (Received February 16, 2016)