

The Space of Morphisms on a Projective Variety: Construction and Applications

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We use geometric invariant theory (GIT) to construct the space of morphisms on a given variety X with given polarization. We show that this space modulo the automorphisms of X is a geometric quotient and is affine. Applications include results of Petsche, Szpiro, and Tepper showing that global potential good reduction implies isotriviality, as well as new results regarding descent of maps.