

Meeting: 1007, Santa Barbara, California, SS 14A, Special Session on Algebraic Geometry and Combinatorics

1007-14-122 **Nicholas J Proudfoot*** (njp@math.utexas.edu), 3209 French Place, Austin, TX 78722. *All the GIT quotients at once.* Preliminary report.

Let V be a smooth algebraic variety, and let T be an algebraic torus acting on V . For any choice of ample equivariant line bundle L on V , one can define the GIT quotient of (V,L) by T , and the topology of the quotient depends on L . I will define the algebraic symplectic quotient of the cotangent bundle of V by T , which may be thought of as a simultaneous complexification of each of the GIT quotients. To study it is like studying all of the GIT quotients at once. (Received February 14, 2005)