

1. Record Nr.	UNINA9910299964903321
Autore	Bini Gilberto
Titolo	Geometric Invariant Theory for Polarized Curves / / by Gilberto Bini, Fabio Felici, Margarida Melo, Filippo Viviani
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-11337-2
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (X, 211 p. 17 illus.)
Collana	Lecture Notes in Mathematics, , 0075-8434 ; ; 2122
Disciplina	516.35
Soggetti	Algebraic geometry Algebraic Geometry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Singular Curves -- Combinatorial Results -- Preliminaries on GIT -- Potential Pseudo-stability Theorem -- Stabilizer Subgroups -- Behavior at the Extremes of the Basic Inequality -- A Criterion of Stability for Tails -- Elliptic Tails and Tacnodes with a Line -- A Stratification of the Semistable Locus -- Semistable, Polystable and Stable Points (part I) -- Stability of Elliptic Tails -- Semistable, Polystable and Stable Points (part II) -- Geometric Properties of the GIT Quotient -- Extra Components of the GIT Quotient -- Compactifications of the Universal Jacobian -- Appendix: Positivity Properties of Balanced Line Bundles. .
Sommario/riassunto	We investigate GIT quotients of polarized curves. More specifically, we study the GIT problem for the Hilbert and Chow schemes of curves of degree d and genus g in a projective space of dimension $d-g$, as d decreases with respect to g . We prove that the first three values of d at which the GIT quotients change are given by $d=a(2g-2)$ where $a=2, 3.5, 4$. We show that, for $a>4$, L. Caporaso's results hold true for both Hilbert and Chow semistability. If $3.5 < a < 4$, the Hilbert semistable locus coincides with the Chow semistable locus and it maps to the moduli stack of weakly-pseudo-stable curves. If $2 < a < 3.5$, the Hilbert and Chow semistable loci coincide and they map to the moduli stack of pseudo-stable curves. We also analyze in detail the critical values $a=3.5$ and $a=4$, where the Hilbert semistable locus is strictly smaller than

the Chow semistable locus. As an application, we obtain three compactifications of the universal Jacobian over the moduli space of stable curves, weakly-pseudo-stable curves and pseudo-stable curves, respectively.
