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| 1. Record Nr.           | UNISALENTO991002955089707536                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Titolo                  | Geometric invariant theory for polarized curves / Gilberto Bini ... [et al.]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pubbl/distr/stampa      | Cham [Switzerland] : Springer, c2014                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ISBN                    | 9783319113364                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Descrizione fisica      | x, 211 p. : ill. ; 24 cm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Collana                 | Lecture notes in mathematics, 0075-8434 ; 2122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Classificazione         | AMS 14L24<br>AMS 14B05<br>AMS 14C05<br>AMS 14C25<br>LC QA564.B485                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Altri autori (Persone)  | Bini, Gilbertoauthor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Disciplina              | 516.35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Soggetti                | Geometry, Algebraic<br>Invariants<br>Moduli theory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Lingua di pubblicazione | Inglese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Formato                 | Materiale a stampa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Livello bibliografico   | Monografia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 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

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