1. | Record Nr. | UNINA9910790961403321 |
|---|---|
| Autore | Yuan Xinyi <1981-> |
| Titolo | The Gross-Zagier formula on Shimura curves [[electronic resource] /] / Xinyi Yuan, Shou-wu Zhang, and Wei Zhang |
| Pubbl/distr/stampa | Princeton, : Princeton University Press, 2012, c2013 |
| ISBN | 9786613883919 |
| | 1-4008-4564-5 |
| | 1-283-57146-3 |
| Edizione | [Course Book] |
| Descrizione fisica | 1 online resource (267 p.) |
| Collana | Annals of mathematics studies ; ; no. 184 |
| Altri autori (Persone) | ZhangShouwu |
| | ZhangWei <1981-> |
| Disciplina | 516.3/52 |
| Soggetti | Shimura varieties |
| | Arithmetical algebraic geometry |
| | Automorphic forms |
| | Quaternions |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | Frontmatter -- Contents -- Preface -- Chapter One. Introduction and Statement of Main Results -- Chapter Two. Weil Representation and Waldspurger Formula -- Chapter Three. Mordell-Weil Groups and Generating Series -- Chapter Four. Trace of the Generating Series -- Chapter Five. Assumptions on the Schwartz Function -- Chapter Six. Derivative of the Analytic Kernel -- Chapter Seven. Decomposition of the Geometric Kernel -- Chapter Eight. Local Heights of CM Points -- Bibliography -- Index |
| Sommario/riassunto | This comprehensive account of the Gross-Zagier formula on Shimura curves over totally real fields relates the heights of Heegner points on abelian varieties to the derivatives of L-series. The formula will have new applications for the Birch and Swinnerton-Dyer conjecture and Diophantine equations. The book begins with a conceptual formulation of the Gross-Zagier formula in terms of incoherent quaternion algebras and incoherent automorphic representations with rational coefficients attached naturally to abelian varieties parametrized by Shimura curves. This is followed by a complete proof of its coherent analogue: the |

Waldspurger formula, which relates the periods of integrals and the special values of L-series by means of Weil representations. The Gross-Zagier formula is then reformulated in terms of incoherent Weil representations and Kudla's generating series. Using Arakelov theory and the modularity of Kudla's generating series, the proof of the Gross-Zagier formula is reduced to local formulas. The Gross-Zagier Formula on Shimura Curves will be of great use to students wishing to enter this area and to those already working in it.