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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.
