1.	Record Nr.	UNINA9910779337503321
	Autore	Harman G (Glyn), <1956->
	Titolo	Prime-detecting sieves [[electronic resource] /] / Glyn Harman
	Pubbl/distr/stampa	Princeton, : Princeton University Press, c2007
	ISBN	0-691-20299-0
		1-283-84829-5
		1-4008-4593-9
	Edizione	[Course Book]
	Descrizione fisica	1 online resource (379 p.)
	Collana	London Mathematical Society monographs series ; ; v. 33
	Classificazione	SK 180
	Disciplina	512.7/3
	Soggetti	Sieves (Mathematics)
		Numbers, Prime
		Number theory
	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 (p. [349]-359) and index.
	Nota di contenuto	Frontmatter -- Contents -- Preface -- Notation -- Chapter 1. Introduction -- Chapter 2. The Vaughan Identity -- Chapter 3. The Alternative Sieve -- Chapter 4. The Rosser-Iwaniec Sieve -- Chapter 5. Developing the Alternative Sieve -- Chapter 6. An Upper-Bound Sieve -- Chapter 7. Primes in Short Intervals -- Chapter 8. The Brun-Titchmarsh Theorem on Average -- Chapter 9. Primes in Almost All Intervals -- Chapter 10. Combination with the Vector Sieve -- Chapter 11. Generalizing to Algebraic Number Fields -- Chapter 12. Variations on Gaussian Primes -- Chapter 13. Primes of the Form $x3 + 2y3$ -- Chapter 14. Epilogue -- Appendix -- Bibliography -- Index
	Sommario/riassunto	This book seeks to describe the rapid development in recent decades of sieve methods able to detect prime numbers. The subject began with Eratosthenes in antiquity, took on new shape with Legendre's form of the sieve, was substantially reworked by Ivan M. Vinogradov and Yuri V. Linnik, but came into its own with Robert C. Vaughan and important contributions from others, notably Roger Heath-Brown and Henryk Iwaniec. Prime-Detecting Sieves breaks new ground by bringing together several different types of problems that have been tackled with modern sieve methods and by discussing the ideas common to each, in particular the use of Type I and Type II information. No other

book has undertaken such a systematic treatment of prime-detecting sieves. Among the many topics Glyn Harman covers are primes in short intervals, the greatest prime factor of the sequence of shifted primes, Goldbach numbers in short intervals, the distribution of Gaussian primes, and the recent work of John Friedlander and Iwaniec on primes that are a sum of a square and a fourth power, and Heath-Brown's work on primes represented as a cube plus twice a cube. This book contains much that is accessible to beginning graduate students, yet also provides insights that will benefit established researchers.