Record Nr. UNINA9910299966203321 Autore Beck József Titolo Probabilistic Diophantine Approximation: Randomness in Lattice Point Counting / / by József Beck Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2014 **ISBN** 3-319-10741-0 Edizione [1st ed. 2014.] Descrizione fisica 1 online resource (497 p.) Collana Springer Monographs in Mathematics, , 1439-7382 512.73 Disciplina Soggetti Number theory **Probabilities Number Theory** Probability Theory and Stochastic Processes Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Preface.- 1 What is "probabilistic" diophantine approximation?.- 2 Nota di contenuto Expectation, and its connection with quadratic fields.- 3 Variance, and its connection with quadratic fields. - 4 Proving randomness. - 5 Pell equation, super irregularity and randomness. - 6 More on randomness -- References -- Index. Sommario/riassunto This book gives a comprehensive treatment of random phenomena and distribution results in diophantine approximation, with a particular emphasis on quadratic irrationals. It covers classical material on the subject as well as many new results developed by the author over the past decade. A range of ideas from other areas of mathematics are brought to bear with surprising connections to topics such as formulae for class numbers, special values of L-functions, and Dedekind sums. Care is taken to elaborate difficult proofs by motivating major steps and accompanying them with background explanations, enabling the reader to learn the theory and relevant techniques. Written by one of the acknowledged experts in the field, Probabilistic Diophantine Approximation is presented in a clear and informal style with sufficient

detail to appeal to both advanced students and researchers in number

theory.