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Nota di contenuto	Preface -- Classical and Geometric Discrepancy -- Upper Bounds in Classical Discrepancy Theory -- Roth's Orthogonal Function Method in Discrepancy Theory and Some New Connections.- Irregularities of distribution and average decay of Fourier transforms.- Superirregularity -- Combinatorial Discrepancy -- Multicolor Discrepancy of Arithmetic Structures -- Algorithmic Aspects of Combinatorial Discrepancy -- Practical Algorithms for Low-Discrepancy 2-Colorings -- Applications and Constructions -- On the distribution of solutions to diophantine equations -- Discrepancy theory and quasi-Monte Carlo integration -- Calculation of Discrepancy Measures and Applications -- Author index -- Subject index.

Discrepancy theory concerns the problem of replacing a continuous object with a discrete sampling. Discrepancy theory is currently at a crossroads between number theory, combinatorics, Fourier analysis, algorithms and complexity, probability theory and numerical analysis. There are several excellent books on discrepancy theory but perhaps no one of them actually shows the present variety of points of view and applications covering the areas "Classical and Geometric Discrepancy Theory", "Combinatorial Discrepancy Theory" and "Applications and Constructions". Our book consists of several chapters, written by experts in the specific areas, and focused on the different aspects of the theory. The book should also be an invitation to researchers and students to find a quick way into the different methods and to motivate interdisciplinary research.
