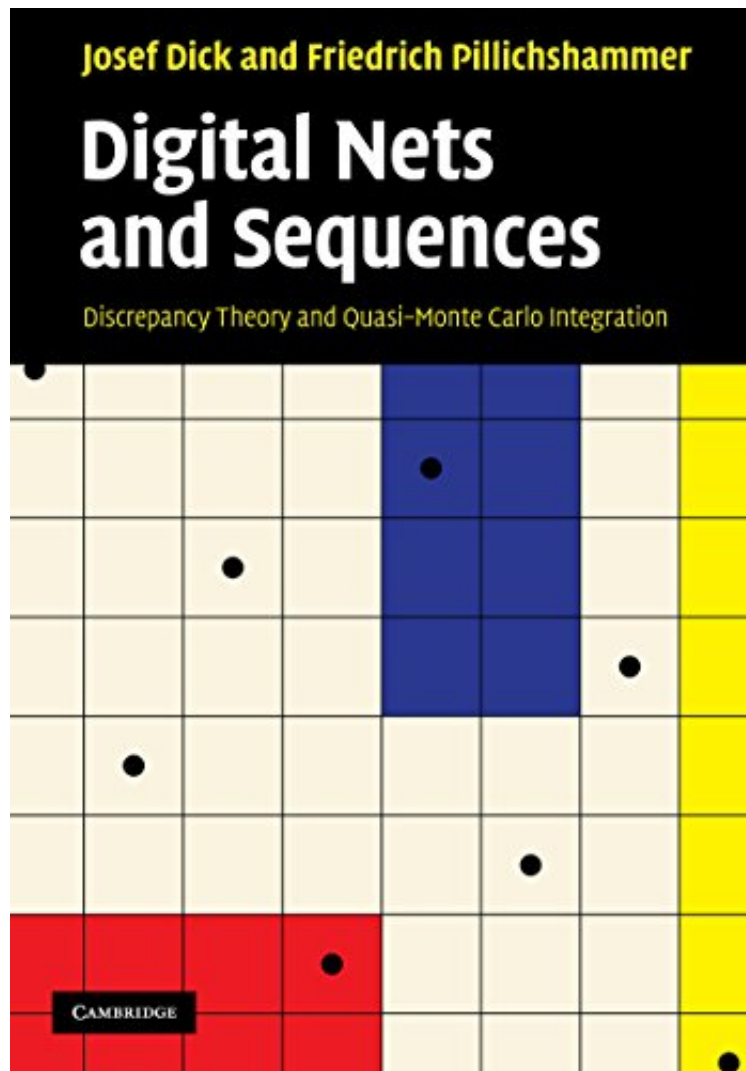


Digital Nets and Sequences: Discrepancy Theory and QuasiMonte Carlo Integration

Von Josef Dick, Friedrich Pillichshammer
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KundenrezensionenHilfreichste Kundenrezensionen0 von 0 Kunden fanden die folgende Rezension hilfreich.
StandardwerkVon alphaEin absolutes Standardwerk! Das Buch ist gut lesbar und bietet einen idealen berblick ber das Gebiet.Geeignet fr Studierende, wie auch fr Experten auf dem Gebiet der Diskrepanztheorie und QMC Methoden und

natürlich auch für am Fach interessierte LeserInnen.

Kurzbeschreibung Indispensable for students, invaluable for researchers, this comprehensive treatment of contemporary quasi-Monte Carlo methods, digital nets and sequences, and discrepancy theory starts from scratch with detailed explanations of the basic concepts and then advances to current methods used in research. As deterministic versions of the Monte Carlo method, quasi-Monte Carlo rules have increased in popularity, with many fruitful applications in mathematical practice. These rules require nodes with good uniform distribution properties, and digital nets and sequences in the sense of Niederreiter are known to be excellent candidates. Besides the classical theory, the book contains chapters on reproducing kernel Hilbert spaces and weighted integration, duality theory for digital nets, polynomial lattice rules, the newest constructions by Niederreiter and Xing and many more. The authors present an accessible introduction to the subject based mainly on material taught in undergraduate courses with numerous examples, exercises and illustrations. Pressestimmen "It will give readers the confidence that their estimates of variance are tractable, and they can therefore use quasi-Monte Carlo (QMC) integration to do the software engineering tradeoff analysis that is critical to professional software project management and architecture. This textbook--and believe me, it is a textbook--will lead students to a deep understanding of the potential errors that can be expected." Larry Bernstein, Computing s "This book provides a self-contained and comprehensive exposition of one of the most attractive techniques for numerical integration, the so-called quasi-Monte Carlo (QMC) rule. As well-known specialists in the field, the authors have made a tour de force to include, systematize, and unify their achievements and an impressive number of results of other people. By introducing the concepts and methods in an accessible and intuitive form, the authors have provided a useful book that is accompanied by a lot of illustrative examples, graphics and applications." Petru P. Blaga, Mathematical sber das Produkt Students will find this book indispensable as it introduces high-dimensional numerical integration and discrepancy theory from scratch with hundreds of examples and exercises. It also includes the newest results on quasi-Monte Carlo, digital nets and sequences, and discrepancy, making it an invaluable reference for researchers.