Título:

Autor:

Editorial:

Tema:

Sinopsis

Precio: $1430.00

Año: 2011

Edición: 1ª

ISBN: 9781439861844

Metaharmonic Lattice Point Theory covers interrelated methods and tools of spherically oriented geomathematics and periodically reflected analytic number theory. The book establishes multi-dimensional Euler and Poisson summation formulas corresponding to elliptic operators for the adaptive determination and calculation of formulas and identities of weighted lattice point numbers, in particular the non-uniform distribution of lattice points.

The author explains how to obtain multi-dimensional generalizations of the Euler summation formula by interpreting classical Bernoulli polynomials as Green's functions and linking them to Zeta and Theta functions. To generate multi-dimensional Euler summation formulas on arbitrary lattices, the Helmholtz wave equation must be converted into an associated integral equation using Green's functions as bridging tools. After doing this, the weighted sums of functional values for a prescribed system of lattice points can be compared with the corresponding integral over the function.

Exploring special function systems of Laplace and Helmholtz equations, this book focuses on the analytic theory of numbers in Euclidean spaces based on methods and procedures of mathematical physics. It shows how these fundamental techniques are used in geomathematical research areas, including gravitation, magnetics, and geothermal.