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Nota di contenuto	Introduction -- Auxiliary results, tools -- Thue equations -- Inhomogeneous Thue equations -- Relative Thue equations -- The resolution of norm form equations -- Index form equations in general -- Cubic fields -- Quartic fields -- Quintic fields -- Sextic fields -- Pure fields -- Cubic relative extensions -- Quartic relative extensions -- Some higher degree fields -- Tables.
Sommario/riassunto	This monograph outlines the structure of index form equations, and makes clear their relationship to other classical types of Diophantine equations. In order to more efficiently determine generators of power integral bases, several algorithms and methods are presented to readers, many of which are new developments in the field. Additionally, readers are presented with various types of number fields to better facilitate their understanding of how index form equations can be solved. By introducing methods like Baker-type estimates, reduction methods, and enumeration algorithms, the material can be applied to a wide variety of Diophantine equations. This new edition provides new results, more topics, and an expanded perspective on algebraic number theory and Diophantine Analysis. Notations, definitions, and tools are presented before moving on to applications to Thue equations and norm form equations. The structure of index forms is explained, which allows readers to approach several types of number fields with ease.

Detailed numerical examples, particularly the tables of data calculated by the presented methods at the end of the book, will help readers see how the material can be applied. Diophantine Equations and Power Integral Bases will be ideal for graduate students and researchers interested in the area. A basic understanding of number fields and algebraic methods to solve Diophantine equations is required.