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    Nota di contenuto   Number Systems -- Basic Arithmetic Circuits -- Residue Number
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    Sommario/riassunto This book presents a complete and accurate study of arithmetic and
                        algebraic circuits. The first part offers a review of all important basic
                        concepts: it describes simple circuits for the implementation of some
                        basic arithmetic operations; it introduces theoretical basis for residue
                        number systems; and describes some fundamental circuits for
                        implementing the main modular operations that will be used in the
                        text. Moreover, the book discusses floating-point representation of real
                        numbers and the IEEE 754 standard. The second and core part of the
                        book offers a deep study of arithmetic circuits and specific algorithms
                        for their implementation. It covers the CORDIC algorithm, and
                        optimized arithmetic circuits recently developed by the authors for
                        adders and subtractors, as well as multipliers, dividers and special

functions. It describes the implementation of basic algebraic circuits, such as LFSRs and cellular automata. Finally, it offers a complete study of Galois fields, showing some exemplary applications and discussing the advantages in comparison to other methods. This dense, self-contained text provides students, researchers and engineers, with extensive knowledge on and a deep understanding of arithmetic and algebraic circuits and their implementation.