



## Application of Residue Arithmetic

By Pallab Maji

LAP Lambert Acad. Publ. Jul 2011, 2011. Taschenbuch. Condition: Neu. Neuware - Residue Number System (RNS) is a non-weighted number system. In RNS, the arithmetic operations are split into smaller parallel operations which are independent of each other. There is no carry propagation between these operations. Hence devices operating in this principle inherit property of high speed and low power consumption. But this property makes overflow detection is very difficult. Hence the moduli set is chosen such that there is no carry generated. In this thesis, the use of residue number system (RNS) is portrayed in designing solution to various applications of Communication and Signal Processing. RNS finds its application where integer arithmetic is authoritative process, since residue arithmetic operates efficiently on integers. New moduli set selection process, magnitude comparison routine and sign detection methods were limed on the onset of this book. In this book, novel image encryption technique, design approach for digital FIR filter and PN sequence generator are depicted and compared to industry standard algorithms and designs for analysis based on various paradigms. Some trite techniques as well as novel approaches were adopted to solve the design challenges. 92 pp. Englisch.



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