Abstract

This paper proposes two efficient residue to binary converters on a new three-moduli set \( \{2^{2n-1}, 2^{4n}, 2^{2n+1}\} \) using the Chinese Remainder Theorem. The proposed reverse converters are adder based and memoryless. In comparison with other moduli sets with similar dynamic range, the new schemes out-perform the existing schemes in terms of both hardware cost and relative performance.

References

New Efficient Reverse Converters for 8n-bit Dynamic Range Moduli Set


8. K. A. Gbolagade, “New Adder-Based RNS-Binary Converters for the \(2^n(n+1)+1, 2^{n(n+1)}-1, 2^n\) Moduli Set,” Int. Sch. Res. Netw.


Index Terms

- Computer Science
- Circuits and Systems

Keywords

Residue to binary converter, reverse converter, residue number system (RNS), Chinese remainder theorem, moduli set.