Computational Aspects of Quadratic and High-Order Residues with Applications in Cryptography, 2nd Edition

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Message from the Guest Editor

Dear Colleagues,

Quadratic and high-order residues have increasingly caught researchers' attention due to their applications in computational number theory, especially in cryptography. A number of the fields in which their use has produced useful results are primality testing, pseudo-random generators, public-key cryptography, secure multiparty computation, etc. However, intense research is still needed to clarify various computational aspects and boost efficiency in cryptographic applications.

This Special Issue aims to bring together original contributions to assist in understanding the computational aspects of quadratic and high-order residues and their applications in cryptography. Areas of interest include, but by no means are restricted to:

1. Efficient computation of high-order residues;
2. Distribution of quadratic and high-order residues;
3. Sums of residues and non-residues;
4. Signed residues;
5. High-order residuosity problem and its relations with other computationally hard problems;
6. Applications in cryptography (pseudo-random generators, public-key cryptography, secure multi-party computation, signcrytion, etc.).

Special Issue

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Message from the Editor-in-Chief

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