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Special Issue Reprint

Advanced Research in Pure and Applied Algebra

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This Reprint is a collection of high-quality research papers from the Special Issue "Advanced Research in Pure and Applied Algebra" of the journal *Mathematics*, focusing on the latest research progress and innovative achievements in pure and applied algebra. It covers a wide range of core research directions in algebra, including Lie theory, cluster algebra, brace, ring theory, representation theory, quantum algebra, and matrix algebra. The included 13 papers explore the commutativity of quotient rings, properties of Lie ideals and homoderivations in semiprime rings, equivalent standard forms of tropical matrices, the structure of i-commutative rings, G-weak graded rings and modules, derivation algebras of quantum groups, generalized (α,β)-derivations involving prime ideals, cohomology of modified Rota–Baxter pre-Lie algebras, ribbon elements of quantum doubles of generalized Taft–Hopf algebras and other important algebraic research topics. All contributions are peer-reviewed and written by renowned scholars and young researchers in the algebraic field worldwide, reflecting the current cutting-edge research trends and development directions of pure and applied algebra. This Reprint provides valuable research references and inspiration for mathematicians, researchers, and graduate students engaged in algebraic research, and it is expected to promote the in-depth development of related research fields and the exchange of academic ideas among international scholars.

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