

RECENT DEVELOPMENTS IN THE ISOMORPHISM PROBLEM FOR GROUP RINGS

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If R is a ring and G is a group then RG denotes the group ring of G with coefficients in R . The Isomorphism Problem, for R a commutative ring, asks whether the isomorphism type of RG as R -algebra determines the isomorphism type of G . The special case where R is field of characteristic p and G is a finite p -group is known as the Modular Isomorphism Problem.

While a negative solution for the Modular Isomorphism Problem in characteristic 2 has been found recently [2], for odd characteristic it is still an open question. The example in [2] is 2-generated and cyclic-by-abelian. However, we will present evidence that a similar example cannot be constructed in odd characteristic [3].

We will present also some positive results on the Isomorphism Problem for rational group algebras.

REFERENCES

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