

Lattice isomorphism and the integral matrix similarity problem

Thursday, 10 March 2022 14:00 (1 hour)

We introduce the integral matrix similarity problem as a special instance of the conjugacy problem from group theory. While this problem has been known to be decidable for over 40 years due to work of Grunewald and Sarkisyan, no upper bound on the complexity has been known and practical algorithms have only been available for special cases. We will present recent work with Werner Bley and Henri Johnston, where we exploit the connection to the lattice isomorphism problem for orders to provide a practical algorithm with proven complexity.

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