Finite Relation Algebras and Constraint Satisfaction Problems

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Network satisfaction problems for finite relation algebras are classical computational problems, studied intensively since the 1990s. They are examples of infinite-domain constraint satisfaction problems. The major open research challenge in this context is to classify these problems with respect to their computational complexity.

We explain the connection between network satisfaction problems and constraint satisfaction and translate in this way open questions from the theory of relation algebras into questions about the model theory of homogeneous multigraphs. Furthermore, we discuss first results in the direction of a complexity classification.