Completeness and Rigidity for Operations and Relations

Reinhard Pöschel
TU Dresden
Germany

There are several notions of completeness and rigidity for operational as well as for relational systems. E.g., for the full transformation monoid $M(A) = A^A$ of all unary mappings on a set A, a subset $F \subseteq M(A)$ is called *complete* if F generates $M(A)$, and a relation $\varrho \subseteq A \times A$ or the graph (A, ϱ) is called *(auto-)rigid* if its automorphism group is trivial.

It turns out that completeness and rigidity are "dual" notions from the point of view of the Galois connection (between operations and relations) induced by the relation $f \triangleright \varrho$ (*function* f *preserves relation* ϱ). In the talk various completeness and rigidity results and their interconnections are reported in a general setting.