

Seminar on Semigroups, Automata and Languages

On the isomorphism problem for power monoids

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Abstract: Endowed with the operation of setwise multiplication induced by a multiplicatively written monoid M on its parts, the non-empty finite subsets of M containing the identity 1_M form themselves a monoid, herein called the reduced power monoid of M . We address the question of whether the reduced power monoid of a monoid H is (monoid-)isomorphic to the reduced power monoid of a monoid K if and only if H is isomorphic to K . In particular, we prove a recent conjecture of P.-Y. Bienvenu and A. Geroldinger (somehow related to a classical problem of T. Tamura and J. Shafer from the late 1960s) concerning the special case where H and K are numerical monoids (in fact, we will treat the more general case in which K is a positively orderable monoid).

Date: Friday, 16 June 2023, 14:30
Place: Online Zoom meeting