RECONSTRUCTING THE TOPOLOGY ON MONOIDS AND POLYMORPHISM CLONES

J. K. TRUSS

We are interested in formulating conditions on a first order structure which ensure that it can be 'reconstructed' from its automorphism group G. Classically this is often done by appealing to the 'small index property' (SIP) for G, in cases where this holds. If we attempt to carry out a similar project for monoids of structure-preserving maps (either embeddings, or general endomorphisms), where SIP makes no sense as Lagrange's Theorem is false, we are led to a topological formulation called 'automatic homeomorphicity' of what is required, proposed by Bodirsky and Pinsker. In joint work with Mike Behrisch and Edith Vargas-Garcia, we present results of this kind for the rationals as an ordered set, and also for corresponding polymorphism clones.

University of Leeds, Leeds (UK)
Email address: J.K.Truss@leeds.ac.uk