

1098-52-173

Elissa Ross* (eross2@wpi.edu), Department of Mathematical Sciences, Stratton Hall, WPI, 100 Institute Road, Worcester, MA 01609, and **Anthony Nixon**. *Modelling Infinite Periodic Frameworks with a Variable Lattice Using Inductive Constructions*.

Zeolites are a type of micro-porous crystalline material which are frequently modelled as fragments of infinite periodic graphs. A topic of interest is to determine the rigidity of zeolite-type structures, since their utility for applications may depend on it. We examine the more general problem of infinite periodic frameworks, and discuss a recursive characterization of generic rigidity for infinite frameworks that are periodic in the plane with respect to a partially variable lattice. We follow the approach of modelling periodic frameworks as frameworks on a torus, and define periodic adapted Henneberg type inductive graph constructions for this setting. (Received January 24, 2014)