1138-05-107 **Arthur S. Finbow**, **Bert L. Hartnell** and **Michael D. Plummer***
(michael.d.plummer@vanderbilt.edu), Vanderbilt University, Nashville, TN 37240. *On the structure of 4-regular planar well-covered graphs.*

A graph is well-covered if every maximal independent set of vertices has the same cardinality. From a computational point of view, it was shown by Chva'tal and Slater and by Sankaranarayana and Stewart that the recognition of non-well-covered graphs is NP-complete, or equivalently, recognizing well-covered graphs is co-NP-complete. However, for certain graph subclasses (e.g., cubic graphs, claw-free graphs, planar triangulations), polynomial recognition algorithms are known. In this talk, we discuss structural properties of a previously unstudied class of well-covered graphs, i.e., those which are 4-regular and planar. (Received February 04, 2018)