

1067-Z1-2265 **Liam Rafferty*** (raffertyl@mso.umt.edu), Liam Rafferty, Missoula, MT 59801. *Uniquely D -colorable Digraphs With Large Girth*. Preliminary report.

A classical result of Erdős is that for all integers k and g there exist graphs with chromatic number k and with girth at least g . Bollobás and Sauer strengthened this result by showing that there are such graphs which are, moreover, uniquely k -colorable. Colorings are special cases of homomorphisms into a fixed graph, and Zhu extended Bollobás and Sauer's result to homomorphisms into general graphs. Our work is to extend this result to digraphs with acyclic homomorphisms. (Received September 22, 2010)