

1085-13-61

Susan Elaine Morey* (morey@txstate.edu), Department of Mathematics, 601 University Dr., San Marcos, TX 78666. *Depths and Cohen-Macaulay Properties of Square-free Monomial Ideals*. Preliminary report.

A square-free monomial ideal I in a polynomial ring R can be associated with a graphical or combinatorial representation. We will use such representations to give lower bounds on the depths of certain classes of square-free monomial ideals (or their powers), and to identify a class of ideals for which R/I is always Cohen-Macaulay. In this talk, we focus on edge ideals and path ideals of graphs. The results presented will involve joint work with multiple authors, including a group of undergraduate research students. (Received August 28, 2012)