

COHEN-MACAULAY MONOMIAL IDEALS OF CODIMENSION 2

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ABSTRACT. We give a structure theorem for Cohen-Macaulay monomial ideals of codimension 2, and describe all possible relation matrices of such ideals. In case that the ideal has a linear resolution, the relation matrices can be identified with the spanning trees of a connected chordal graph with the property that each distinct pair of maximal cliques of the graph has at most one vertex in common.

Key words : Monomial Ideals, Taylor Complexes, Linear Resolutions, Chordal Graphs.