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Cohen-Macaulay properties of monomial ideals

This talk is about monomial ideals that are (sequentially) Cohen-Macaulay or (componentwise) linear. Associated to a monomial ideal, one can define two different kinds of simplicial complexes, each with their own set of combinatorial Cohen-Macaulay properties. From there, one can consider the duals of each of these complexes and the ideals associated to each one of those. In this talk we will try to exploit the relationship between these combinatorial objects to recover Cohen-Macaulay properties of the associated ideals.