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Susan Morey* (morey@txstate.edu), Department of Mathematics, Texas State University, 601 University Drive, San Marcos, TX 78748. *Associated Primes of Powers of Monomial Ideals.*

There is a one-to-one correspondence between square-free monomial ideals generated in degree two and graphs that extends naturally to a correspondence between more general square-free monomial ideals and simple hypergraphs (also called clutters). This correspondence will be exploited to describe which prime ideals are associated primes of R/I^t for some integer t when either I is a square-free monomial ideal generated in degree two, or when the generators of I that are not square-free of degree two are pure powers. For square-free monomial ideals with higher degree generators, the focus will be on when the homogeneous maximal ideal is an associated prime of a power of I . (Received September 11, 2010)