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The Behavior of the Betti Table of Squarefree Monomial Ideals under some Extension Process

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Let I be a squarefree monomial ideal generated in degree d in a polynomial ring S . This talk concerns to compare the multigraded Betti numbers of the ideals I and $I + (u)$, where $u \notin I$ is a squarefree monomial of degree d . It is shown that for appropriate choices of u , the nonlinear strands of the two ideals are the same and, moreover, the linear strands of $I + (u)$ can be explicitly determined by those of I . Motivated by this result, a class of d -uniform clutters is introduced and some algebraic properties of these clutters are investigated.

This is based on a joint work with A. A. Yazdan Pour.