

Meeting: 999, Nashville, Tennessee, SS 6A, Special Session on Local and Homological Algebra

999-13-25

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(tchernev@math.albany.edu). *Betti numbers of multigraded modules*. Preliminary report.

We use a recent construction by the second author of an explicit free resolution for multigraded modules to investigate their Betti numbers. We introduce the notion of a multigraded module of generic type, which is a substantial broadening of the notion of combinatorially generic module considered by these authors in previous work. We show that when the multigraded module is of generic type, its multigraded Betti numbers are determined completely by a certain matroid associated with a minimal free multigraded presentation of the module. (Received June 29, 2004)