LCM-Lattice and Free Resolution of Powers of Monomial Ideals

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In 1999, V. Gasharov, I. Peeva and V. Welker introduced LCM-Lattice method for computing multigraded Betti numbers of monomial ideals. In this talk, we introduce this method and after that we state some theorems which are proved by using this method. We focus on powers of monomial ideals and in this regard, we mention the Nevo-Peeva conjecture. At last, we give a criterion for componentwise linearity for some powers of monomial ideals, that is a joint work with N. Altafi, S.A. Seyed Fakhari and S. Yassemi.