Abstract

A squarefree monomial ideal is called an f-ideal if both of the simplicial complexes obtained from it, facet and non face complex, have the same f-vector. Regularity is an important invariant of a module connected to the graded betti numbers which is obtained from graded free resolution of a module. In this thesis, we find bounds for regularity of a squarefree monomial ideal of degree d when generating set of the ideal is an upper perfect set, and using the property of f-ideals, i.e., its generating set is a perfect set, we do the same for f-ideals. The regularity can be either d or $d+1$. Furthermore, we compute the regularity of f-ideals of degree 2 exactly and for that purpose also find the induced matching number of f-graphs.