MATH COLLOQUIUM

Hilbert Functions of Local Rings and Rossi's Conjecture

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Date : Wednesday, November 4, 2009
Time : 14:00
Place : TB 250, Boğaziçi Üniversitesi

Abstract: In general, very little is known about the Hilbert functions of local rings, even in dimension 1 case. Maria Evelina Rossi conjectured that every one dimensional Gorenstein local ring has a nondecreasing Hilbert function. This conjecture is open even for Gorenstein local rings corresponding to monomial curves. In this talk, I will present some partial results supporting Rossi's conjecture in the monomial curve case. These results, which are based on the tool of gluing, provide infinitely many families of monomial curves with the corresponding local Gorenstein rings having nondecreasing Hilbert functions.

Tea and coffee will be served at 15:00