

1057-13-4

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*Multiplicities, integral dependence, and equisingularity.*

Multiplicity theory is a classical topic in commutative algebra and algebraic geometry. The talk will survey aspects of this subject and highlight its connections to equisingularity theory. A goal in equisingularity theory is to decide whether singularities that appear in a family are ‘equivalent’ to one another, using numerical invariants such as multiplicities. Translated into algebra, a version of this problem amounts to proving multiplicity based criteria for the integral dependence of modules. Such criteria have a long history, spanning from work of Rees in the early sixties to more recent results that require generalizations of the classical notions of multiplicity. (Received April 09, 2009)