

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

999-13-48

Laura Ghezzi* (ghezzi1@fiu.edu), Department of Mathematics, Florida International University, University Park, Miami, FL 33199. *Homology multipliers and the relation type of parameter ideals.*

This is joint work with Ian Aberbach and Huy Tài Hà. The relation type question, raised by C. Huneke, asks whether for a complete equidimensional local ring R there exists a uniform number N such that the relation type of every ideal generated by a system of parameters is at most N . Wang gave a positive answer when the non-Cohen-Macaulay locus X of R has dimension zero. There is an example, due to I. Aberbach, which gives a negative answer when $\dim X \geq 2$. We investigate the remaining situation, i.e., when $\dim X = 1$. We introduce the notion of homology multipliers and show that the question has a positive answer when $R/A(R)$ is a domain, where $A(R)$ is the ideal generated by all homology multipliers in R . (Received July 25, 2004)