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

999-13-186 **Janet Striuli*** (jstriuli@math.ukans.edu), University of Kansas, 405 Snow Hall 1460 Jayhawk Blvd, Lawrence, KS 66045-7523. *Extensions of Modules.*

In this talk we study closely Yoneda's correspondence between short exact sequences and the ext^1 group. We prove a main theorem which gives conditions on the splitting of a short exact sequence after taking the tensor product with R/I, for any ideal I of R. Among the applications we prove an extension of Miyata's Theorem. We introduce the notion of sparse module and we show that $\mathrm{ext}^1_R(M,N)$ is a sparse module provided that there are finitely many isomorphism classes of maximal Cohen-Macaulay modules having multiplicity the sum of the multiplicities of M and N. We prove that sparse modules are Artinian. (Received August 23, 2004)