

**Meeting:** 1003, Atlanta, Georgia, SS 20A, AMS Special Session on Commutative Algebra, I

1003-13-1321      **Liana M Sega\*** (lsega@math.msu.edu) and **David Jorgensen** (djorgens@math.uta.edu).

*Independence of the total reflexivity conditions for modules.*

We show that the conditions defining total reflexivity for modules are independent. In particular, we construct a commutative Noetherian local ring  $R$  and a reflexive  $R$ -module  $M$  such that  $\text{Ext}_R^i(M, R) = 0$  for all  $i > 0$ , but  $\text{Ext}_R^i(M^*, R) \neq 0$  for all  $i > 0$ . (Received October 04, 2004)