1107-13-241   **Adela Vraciu*** (`vraciu@math.sc.edu`). *Examples of rings that do not have any non-free totally reflexive modules.* Preliminary report.

Totally reflexive modules are the basis of the homological theory of G-dimension (similar to the way in which projective modules are the basis of the theory of projective dimension). It is known by a result of Christensen, Piepmeyer, Striuli and Takahashi that a Cohen-Macaulay non-Gorenstein ring has either infinitely many isomorphism classes of indecomposable totally reflexive modules, or else is has none (except for the free module). No criterion is known for deciding when a given ring falls into one of these categories or the other. This talk will present some examples of Artinian rings that are in some sense close to Gorenstein (but not Gorenstein) that do not have any non-free totally reflexive modules. (Received January 16, 2015)