

1056-13-2028

Hamid Rahmati* (hamid.rahmati@ttu.edu) and **Janet Striuli**. *Local rings and high syzygies*. Preliminary report.

Let R be a commutative local ring and M be an R -module. We say that M is an n th syzygy if there is an exact sequence

$$0 \rightarrow M \rightarrow F_1 \rightarrow F_2 \rightarrow \cdots \rightarrow F_{n-1} \rightarrow F_n$$

where F_i is free for all $i \geq 1$. We show that if certain R -modules are n th syzygies for n large enough, it implies some nice properties of the ring R . (Received September 22, 2009)