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**Jason McCullough\***, Rider University, Department of Mathematics, 2083 Lawrenceville Road,  
Lawrenceville, NJ 08648. *On the maximal graded shifts of modules over a polynomial ring.*

Let  $S = K[x_1, \dots, x_n]$  be a polynomial ring over a field  $K$  and let  $M$  be a finitely generated graded  $S$ -module. Let  $T_i = \dim_K \text{Tor}_i(M, K)_j$ . Then  $T_i$  denotes the maximal degree of an  $i$ th syzygy of  $M$  and is of interest primarily because of its connection with regularity, i.e.  $\text{reg}(M) = \max\{T_i - i \mid 0 \leq i \leq \text{pd}(M)\}$ . In my talk I will present some new bounds on  $T_n$  for modules with certain assumptions about the annihilator. Special cases give interesting results on the maximal graded shifts of ideals. (Received March 19, 2017)