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Lars W. Christensen, David A. Jorgensen, Hamid Rahmati* (hamid.rahmati@ttu.edu),
Janet Striuli and Roger Wiegand. *Brauer-Thrall for totally reflexive modules.* Preliminary
report.

Let (R, \mathfrak{m}, k) be a commutative local ring. A finite R -module M is called totally reflexive if it is reflexive and $\text{Ext}_R^i(M, R) = \text{Ext}_R^i(M^*, R) = 0$ for all $i > 0$. Assume that R is not Gorenstein and that there are elements $w, x \in \mathfrak{m}$ such that $\text{Ann}_R(x) = (w)$ and $\text{Ann}_R(w) = (x)$. For every $n \in \mathbb{N}$, there exists an indecomposable totally reflexive module that is minimally generated by n elements. Moreover, if k is infinite then for every $n \in \mathbb{N}$, there are $|k|$ pairwise non-isomorphic indecomposable totally reflexive modules that are minimally generated by n elements. (Received August 06, 2010)