1067-13-672 **Melissa Lindsey***, Department of Mathematics, Purdue University, 150 N. University Street, West Lafayette, IN 47907. *Extending the Strong Lefschetz Property.*

Let $k$ be a field of characteristic zero, and let $R = k[x_1, \ldots, x_n]$ be a standard graded polynomial ring in $n$ variables over $k$. For $M$, a finitely generated zero-dimensional $R$-graded module with the strong Lefschetz property, we introduce a new property of the Hilbert function, the *almost centered property*. We show that $M \otimes_k k[y]/(y^m)$ has the strong Lefschetz property for $y$ an indeterminate and all positive integers m if and only if the Hilbert function of $M$ has the almost centered property. This result gives a new proof of Stanley's theorem that $k[x_1, \ldots, x_n]/(x_1^{a_1}, \ldots, x_n^{a_n})$ has the strong Lefschetz property. We also discuss what happens in the case where the characteristic of the field is positive. (Received September 13, 2010)