1009-13-158 **Yongwei Yao*** (ywyao@umich.edu), University of Michigan, Ann Arbor, MI 48109. *The direct sum decomposability of* ${}^eM$ *in dimension* 2. Preliminary report.

Let $(R, \mathfrak{m})$ be a Noetherian local ring of prime characteristic p and M a finitely generated R-module. For every $q = p^e$, denote by ${}^eM$ the derived R-module structure on M with scalar multiplication determined via $r \cdot x := r^q x$ for $r \in R, x \in M$. We assume R is F-finite so that ${}^eM$ is finite over R. Hochster showed that if $\dim(M) \leq 1$ then, for sufficiently large e, ${}^eM$ can be written as a direct sum of two non-zero modules, i.e. ${}^eM$ is decomposable. In this talk, we show that the same is also true in the case of $\dim(M) = 2$ provided that, for some $P \in Ass_R(M)$ such that $\dim(R/P) = 2$, the integral closure of R/P in a finite algebraic extension field of $(R/P)_P$ is strongly F-regular. (Received August 15, 2005)