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Wolfgang Hassler and **Roger Wiegand*** (rwiegand@math.unl.edu), Department of Mathematics, University of Nebraska, Lincoln, NE 68588-0130. *Extended modules relative to a flat local homomorphism.*

In studying direct-sum behavior of finitely generated modules over a local ring (R, \mathfrak{m}, k) , it is often useful to pass to a larger local ring via a flat local homomorphism $R \rightarrow S$. For example, S might be the completion or the Henselization of R ; or S might be obtained by lifting the map $k \rightarrow \bar{k}$, where \bar{k} is the algebraic closure of k . One then needs to understand how the category of R -modules sits inside the corresponding category of S -modules. In particular, one needs to know which S -modules actually come from R -modules (that is, are in the image of the functor $M \mapsto S \otimes_R M$). We will discuss this problem, with particular emphasis on the case of rings of dimension zero or one. (Received September 09, 2009)