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Benjamin J Anderson* (banderson@uwlax.edu), Mathematics Department, 1020 Cowley Hall, 1725 State Street, La Crosse, WI 54601. *NAK for Ext, Ascent of Module Structures and the Blindness of Extended Modules*. Preliminary report.

Let $\varphi: R \rightarrow S$ be a flat local ring homomorphism, and let M be a finitely generated R -module. Then the following are equivalent:

1. M has an S -module structure compatible with its R -module structure;
2. $\text{Ext}_R^i(S, M) = 0$ for $i \geq 1$;
3. $\text{Ext}_R^i(S, M)$ is finitely generated over R for $i = 1, \dots, \dim_R(M)$;
4. $\text{Ext}_R^i(S, M)$ is finitely generated over S for $i = 1, \dots, \dim_R(M)$;
5. $\text{Ext}_R^i(S, M)$ satisfies NAK over R for $i = 1, \dots, \dim_R(M)$.

We will discuss this result, some generalizations of this result, and demonstrate equalities between a number of invariants computed over R and over S for modules that satisfy the equivalent conditions stated above. (Received September 24, 2012)