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Katharine Shultis* (s-kshulti1@math.unl.edu). *Systems of Parameters and the Cohen-Macaulay Property*. Preliminary report.

Let R be a commutative, Noetherian, local ring and M a finitely generated R -module. Consider the module of homomorphisms $\text{Hom}_R(R/\mathfrak{a}, M/\mathfrak{b}M)$ where $\mathfrak{b} \subseteq \mathfrak{a}$ are parameter ideals of M . When $M = R$ and R is Cohen-Macaulay, Rees showed that this module of homomorphisms is always isomorphic to R/\mathfrak{a} . Recently, K. Bahmanpour and R. Naghipour showed that if $\text{Hom}_R(R/\mathfrak{a}, R/\mathfrak{b})$ is isomorphic to R/\mathfrak{a} for *every* pair of parameter ideals $\mathfrak{b} \subseteq \mathfrak{a}$ then R is Cohen-Macaulay. I will discuss the structure of $\text{Hom}_R(R/\mathfrak{a}, M/\mathfrak{b}M)$ for general M . (Received January 19, 2015)