1024-13-132 **David E. Dobbs*** (dobbs@math.utk.edu), Department of Mathematics, university of Tennessee, Knoxville, TN 37996-1300, and **Jay Shapiro**. *Composites of minimal ring extensions.* Preliminary report.

Let R be a (commutative unital) ring. If S, T are distinct minimal ring extensions of R, their composite ST may not exist; i.e., there may not exist a (commutative unital) R-algebra U containing both S and T. We assume henceforth that such U exists. It is natural to ask (*): is ST a minimal ring extension of both S and T? If R is a field and S, T (as above) are Galois field extensions of R, the answer to (*) is "yes". If R is a field and either S or T is not a field, the answer to (*) is "no". Assume that R is a domain but not a field (more generally, R with regular total quotient ring and no minimax prime). Let M, N be the crucial maximal ideals of R relative to S, T, resp. If R is integrally closed in both S and T, the answer to (*) is "yes". If $M \neq N$, the answer to (*) is "yes" (this is valid for all rings R). If $M = N$ and both S and T are integral overrings of R, then, unless M is a maximal ideal of both S and T, examples show that the above conditions can be met with a resounding negative answer to (*). There are then examples with infinite descending or ascending chains of rings between ST and either S or T such that consecutive rings in these chains form minimal ring extensions. (Received January 05, 2007)