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Kevin Tucker* (kevtuck@umich.edu), Department of Mathematics, University of Michigan, 2704 East University Avenue, Ann Arbor, MI 48109-1109, and **Karl Schwede** (kschwede@umich.edu), Department of Mathematics, University of Michigan, 2704 East University Avenue, Ann Arbor, MI 48109-1109. *On the Behavior of Test Ideals Under Generically Separable Finite Morphisms.*

Suppose $\pi : Y = \text{Spec}(S) \rightarrow X = \text{Spec}(R)$ is a generically separable finite morphism of F -finite normal varieties in characteristic $p > 0$. By analyzing lifting properties of p^{-e} -linear maps using the trace map on function fields, we are able to relate (generalized) test ideals $\tau(X, \Delta_X)$ and $\tau(Y, \Delta_Y)$ corresponding to certain divisors Δ_X and Δ_Y on X and Y , respectively. This generalizes previously known results on the behavior of test ideals under finite morphisms which are étale in codimension one. (Received September 21, 2009)