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Church Street, Ann Arbor, MI 48109. *Discreteness and rationality of F -thresholds on rings with
singularities.*

In characteristic zero, the multiplier ideal $\mathcal{J}(X, f^t)$ changes (as t varies) at a discrete set of rational numbers. Since the test ideal $\tau(R, f^t)$ is a characteristic p analogue of the multiplier ideal, it is natural to ask whether it also changes (as t varies) at a discrete set of rational numbers. Blickle, Mustașă and Smith proved this when R is regular (another proof was obtained by Katzman, Lyubeznik and Zhang).

I will discuss recent work with Zhang where we prove that the $\tau(R, f^t)$ jumps at a discrete set of rational numbers where R is not assumed to be regular (essentially, we require the same conditions on R as are assumed in characteristic zero). (Received January 27, 2009)