1056-11-365 **John T Cullinan*** (`cullinan@bard.edu`), Department of Mathematics, Bard College, Annandale-On-Hudson, NY 12504. *Ramification in iterated towers for rational functions.*

Let $\phi(x)$ be a rational function of degree $d > 1$ defined over a number field K and let $\Phi_n(x,t) = \phi^{(n)}(x) - t \in K(x,t)$ where $\phi^{(n)}(x)$ is the nth iterate of $\phi(x)$. We give a formula for the discriminant $D_{n,\phi}(t)$ of the numerator of $\Phi_n(x,t)$ and show that, if $\phi(x)$ is postcritically finite, for each specialization t_0 of t to K, there exists a finite set S_{t_0} of primes of K such that for all n, the primes dividing $D_{n,\phi}(t_0)$ are contained in S_{t_0}. This is joint work with Farshid Hajir. (Received September 02, 2009)