1135-11-926 **Robert L. Benedetto*** (rlbenedetto@amherst.edu). *Computing arboreal Galois groups of some PCF polynomials.*

Let K be a number field, let $f \in K(x)$ be a rational function of degree $d \geq 2$, and let $a \in K$. The roots of $f^n(z) - a$ are the n-th preimages of a under f, and they have the natural structure of a d-ary rooted tree T. The resulting representation of the absolute Galois group of K in the automorphism group of T is called an arboreal Galois representation. In many cases, it is expected that its image has finite index in the full automorphism group, but in some cases, such as when f is postcritically finite (PCF), the image has infinite index. In this talk, we present some new PCF examples where the arboreal Galois group can be computed completely. (Received September 17, 2017)