

1077-11-2307 **Alon Levy*** (levy@math.brown.edu). *Bounding the Height of a Postcritically Finite Map.*

(Joint with P. Ingram and R. Jones)

Postcritically finite (PCF) maps - that is, rational maps whose critical points all have finite forward orbit - have special arithmetic and geometric properties, and should be regarded as a special case, much like elliptic curves with complex multiplication. Over \mathbb{C} , we know from Thurston's rigidity theorem that away from the Lattes curve, there are countably many PCF maps, so the PCF maps are in a precise sense sparse over \mathbb{C} . In this work, we prove a sparseness result over number fields: the heights of the multipliers of a PCF map are bounded in terms of the degree of the map, so that away from the Lattes curve there are only finitely many of a given degree defined over a given number field. The proof method has some other interesting corollaries, for example about attracting cycles over non-archimedean fields. (Received September 22, 2011)