New applications of the p -adic Nevanlinna Theory, in a field K, inside an open disk or out of a hole

Abstract: We establish the Nevanlinna Theory for meromorphic functions out of a hole in an ultra-metric complete algebraically closed field K, a joint work with Ta Thi Hoai An. Motzkin Factors, known for analytic elements, play here an essential role. We also give several applications of the theory to meromorphic functions, such as sharing a finite set CM and IM and sharing two finite sets. Following results in complex analysis, we consider two analytic functions f and g in K, or inside an open disk or out of a hole, such that $f^n(x)f(x+b)$ and $g^n(x)g(x+b)$ share one point CM and prove that $f = g$ provided that $n \geq 3$ or 4.