Two p-adic meromorphic functions sharing a few small functions I.M.

A survey and additional properties

A joint work by Alain Escassut and C.C. Yang

Abstract  Let $k$ be a complete ultrametric algebraically closed field of characteristic 0, let $D$ be the open disk $\{x \in k \mid |x| < R\}$ and let $E = k \setminus D$. Let $f, g$ be two meromorphic functions in $k$ (resp. two unbounded meromorphic functions in $D$, resp. two meromorphic functions in $E$) sharing 7 small meromorphic functions in the same set (ignoring multiplicity). Then $f = g$. Moreover, if $f$ and $g$ are analytic in $k$ (resp. in $D$, resp. in $E$), and share 3 small analytic functions, other than the constant $\infty$, (ignoring multiplicity), then $f = g$. 