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Paul A. Gunsul*, Mathematical Sciences, Watson Hall, DeKalb, IL 60115. *An Identical Function Theorem for Functions of Slow Growth in the Disk*. Preliminary report.

R. Nevanlinna showed that if two non-constant, meromorphic functions in the plane agree for five distinct values, then the two functions are identical. This result carries over for admissible functions in the unit disk since the error term in the Second Fundamental Theorem of Nevanlinna Theory is small relative to the growth of such functions. But for functions in class $\mathcal{F} = \left\{ f : \limsup_{r \rightarrow 1} \frac{T(r,f)}{-\log(1-r) = \alpha(f) < \infty} \right\}$, the error term for the Second Fundamental Theorem may be of similar magnitude to the growth of the function. Using a result from work of D.F. Shea and L.R. Sons for functions in class \mathcal{F} , we show how many distinct values of agreement two meromorphic functions in class \mathcal{F} with $\alpha(f) > 0$ need to have in order to be identical. (Received September 04, 2008)