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L. R. Sons* (sons@math.niu.edu), Department of Mathematical Sciences, Northern Illinois University, DeKalb, IL 60115. On Borel Exceptional Values for Meromorphic Functions in the Unit Disk. Preliminary report.

Let f be a meromorphic function in the unit disk for which A(f) the limit supremum of $T(r,f)/(-\log(1-r))$ is finite and positive (where T(r,f) is the Nevanlinna characteristic of f at r). A complex number a is a Borel exceptional value for f if the limit supremum of $N(r,a)/(-\log(1-r))$ is less than A(f). In his 2001 dissertation Djamel Benbourenane explored implications for solutions of second order differential equations when coefficient functions for the equations were in the class above and had one or more Borel exceptional values. We study the best possible nature of his conclusions. (Received September 22, 2005)