

Bergweiler, Walter; Eremenko, Alexandre**On the singularities of the inverse to a meromorphic function of finite order.** (English)[Zbl 0830.30016](#)

Rev. Mat. Iberoam. 11, No. 2, 355-373 (1995).

Summary: Our main result implies the following theorem: Let f be a transcendental meromorphic function in the complex plane. If f has finite order ρ , then every asymptotic value of f , except at most 2ρ of them, is a limit point of critical values of f . We give several applications of this theorem. For example we prove that if f is a transcendental meromorphic function then $f'f^n$ with $n \geq 1$ takes every finite nonzero value infinitely often. This proves a conjecture of Hayman. The proof makes use of the iteration theory of meromorphic functions.

MSC:**30D30** Meromorphic functions of one complex variable, general theory**30D05** Functional equations in the complex plane, iteration and composition of analytic functions of one complex variableCited in **7** Reviews
Cited in **168** Documents**Full Text:** [DOI](#) [EuDML](#)