

[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 variable

Cited in **8** Reviews

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