
Paul M. Gauthier and Eduardo S. Zeron

Small Perturbations of the Riemann Zeta Function and their Zeros

CMFT 4 No.1 (2004), 143–150. [ISSN 1617-9447]

Abstract. It is shown that the Riemann hypotheses fails for two types of arbitrarily close approximations of the Riemann zeta function. The first type is meromorphic and *approximates* the zeta function outside of a small set. The second type is quasi-meromorphic, *agrees* with the zeta function outside of an even smaller set and approximates the zeta function *everywhere*.

Keywords. Tangential approximation, Riemann zeta function.

2000 MSC. 11M26, 30C62, 30E10.

Received. February 6, 2004, in revised form May 24, 2004.