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Paul M Gauthier* (gauthier@dms.umontreal.ca). *Zero-free approximation.*

Suppose K is a compact subset of the complex plane and suppose that every continuous function on K , which is holomorphic on the interior of K^o , is the uniform limit of polynomials. Johan Andersson has conjectured that, then, every continuous function on K , which is holomorphic and {zero-free} on K^o , is the uniform limit of polynomials which are zero-free on K^o . Andersson also formulated a conjecture regarding the Riemann zeta-function and proved the remarkable fact that these two conjectures are equivalent. We present some new insights on these matters. (Received February 05, 2011)