Approximation of and by the Riemann zeta-function

Paul Gauthier

Département de Mathématiques et de Statistique
Université de Montréal
C.P. 6128, Succ. Centre-ville
Montréal, QC H3C 3J7
CANADA

gauthier@dms.umontreal.ca

With Clouâtre, we have shown that any holomorphic function can be approximated by translates of Taylor polynomials of the Riemann zeta-function. On the other hand, with Zeron, we have shown that the Riemann zeta-function can be approximated by functions for which the analogue of the Riemann hypothesis fails. Recently, with Xarles, we have shown that it can also be approximated by functions for which the analogue of the Riemann hypothesis holds.