

1096-11-509

**David W Farmer, Steven M Gonek and Yoonbok Lee\*** ([lee@math.rochester.edu](mailto:lee@math.rochester.edu)),  
Department of Mathematics, University of Rochester, Rochester, NY 14627. *Pair correlation of the zeros of the derivative of the Riemann  $\xi$ -function.*

The complex zeros of the Riemann zeta-function are identical to the zeros of the Riemann xi-function,  $\xi(s)$ . Thus, if the Riemann Hypothesis is true for the zeta-function, it is true for  $\xi(s)$ . Since  $\xi(s)$  is entire, the zeros of  $\xi'(s)$ , its derivative, would then also satisfy a Riemann Hypothesis. We investigate the pair correlation function of the zeros of  $\xi'(s)$  under the assumption that the Riemann Hypothesis is true. We then deduce consequences about the size of gaps between these zeros and the proportion of these zeros that are simple. (Received September 05, 2013)