

1106-11-2820

Owen F. Barrett* (owen.barrett@yale.edu), PO Box 202519, New Haven, CT 06520, and
Brian McDonald, Steven J. Miller, Patrick Ryan, Caroline L. Turnage-Butterbaugh
and **Karl Winsor**. *Gaps between zeros of GL(2) L-functions.*

Let $L(s, f)$ be an L -function associated to a primitive form f on $\mathrm{GL}(2)$ over \mathbf{Q} . Combining mean-value estimates from Montgomery and Vaughan with a method of Ramachandra, we prove a formula for the mixed second moment of derivatives of $L(1/2 + it, f)$ and use it to show that there are infinitely many gaps between consecutive zeros of $L(s, f)$ along the critical line that are at least $\sqrt{3}$ times the average spacing. Using general pair correlation results for primitive $\mathrm{GL}(2)$ L -functions, we also prove that there are infinitely many gaps between consecutive zeros of $L(s, f)$ along the critical line that are smaller than 0.83 times the average spacing. (Received September 16, 2014)