

ZEROS OF COMBINATIONS OF DERIVATIVES OF RIEMANN-XI FUNCTION ON THE CRITICAL LINE

SNEHA CHAUBEY (University of Göttingen)

ABSTRACT: The Riemann Hypothesis implies that the zeros of all the derivatives of the Riemann-Xi function ($\xi(s)$) lie on the critical line. Results on the proportion of zeros of the derivatives of $\xi(s)$ on the critical line have been investigated before, and it has been shown, that the percentage of zeros of $\xi^{(k)}(s)$ approaches a 100 percent as the order of the derivative increases. In this talk, we prove a result for combinations of derivatives of $\xi(s)$. Although not always our combinations have all their zeros on the critical line, we show that the proportion of zeros on the critical line tends to 1.