AN ATTEMPT TO PROVE THE RIEMANN HYPOTHESIS SIMPLY

DMITRI MARTILA
INDEPENDENT RESEARCHER
J. V. JANNSENI 6–7, PÄRNU 80032, ESTONIA

Abstract. This work says that Riemann Hypothesis is true.
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There is a vivid interest in the Riemann Hypothesis, and there are no reasons to doubt Riemann Hypothesis. [1] Still, despite many attempts to prove the long-standing Millennium Prize problem, those have yet to be published in a reputable journal.

It is known [2] that the zeroes $x = x_0$, $y = y_0$ of the zeta function, $\zeta(x_0 + i\,y_0) = 0$, satisfy $\zeta(x_0 + i\,y_0) = \zeta(1 - x_0 + i\,y_0)$ and $\xi(x_0 + i\,y_0) = \xi(1 - x_0 + i\,y_0)$ because zeroes of the Landau's xi function and zeroes of the zeta function are the same in the critical strip. [3]

For a general values of x, y, the differences are $\Delta = \zeta(x + i\,y) - \zeta(1 - x + i\,y)$ and $\delta = \xi(x + i\,y) - \xi(1 - x + i\,y)$. Hereby, it is necessary for ζ function to be zero if both Δ and δ vanish. I can write then $\zeta = \zeta(x, y, \Delta, \delta)$. And equation $\zeta(1/2, y_0, 0, 0) = 0$ produces all the zeroes on the critical line because the differences surely vanish if $x = 1/2$. So, $\zeta(1/2 + i\,y_0) = \xi(1/2 + i\,y_0) = 0$.

References

[1] David W. Farmer, "Currently there are no reasons to doubt the Riemann Hypothesis," arXiv:2211.11671 [math.NT], 2022AD.
[2] Georg Friedrich Bernhard Riemann, Über die Anzahl der Primzahlen unter einer gegebenen Größe, in: Monatsberichte der Preußischen Akademie der Wissenschaften. Berlin, November 1859, S. 671ff.
[3] E. C. Titchmarsh, The theory of the Riemann zeta function, Clarendon Press, Oxford 1951; Aleksandar Ivic, The Riemann Zeta-Function: Theory and Applications (Dover Books on Mathematics), 2003.

eestidima@gmail.com.