Riemann hypothesis is negated

[This paper refuses any premium from Clay]

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Abstract

$\sigma + ti$ is irrelevant to the distributive law of primes.

Key words: Riemann hypothesis, prime, non-trivial zero point.

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In 1903, Gram had obtained 15 non-trivial zero points of $\zeta(s)$.

But he did not give out the ordinal number of these zero points.

Therefore, we must find out their ordinal number N(T).

Lemma. $2e|s|\cdot\ln 2|s| = N(T)$, $(14.14 \leqslant |s| \leqslant 49.78,\ 257 \leqslant N(T) \leqslant 1245)$. (A)

We can calculate the ordinal number N(T) when $|s|$ is given.

Proof. Gram's 15 non-trivial zero points $\sigma + ti$: [1]

0.5 + 14.134725i, 0.5 + 21.022040i, 0.5 + 25.010856i, 0.5 + 30.424878i,
0.5 + 32.935057i, 0.5 + 37.586176i, 0.5 + 40.918720i, 0.5 + 43.327073i,
0.5 + 48.005150i, 0.5 + 49.773832i, 0.5 + 52.8i, 0.5 + 56.4i,
0.5 + 59.4i, 0.5 + 61.0i, 0.5 + 65.0i,

$|s|$ = 14.1435657, 21.0279853, 25.01585333, 30.4289862, 32.93885213,
37.58950154, 40.92177472, 43.32995794, 48.00775382, 49.7763433,

Since the 15 non-trivial zero points lie on the critical line $\sigma = 0.5$, there must be a critical point (0.5, 0) below the 15 non-trivial zero points. $|s| = \sigma = 0.5$, $t = 0$, $N(T) = 0$,

From Riemann hypothesis (2):

$$(T/2\pi)(\log(T/2\pi) - 1) = N(T),\ (2\pi e \leqslant T < \infty,\ 0 \leqslant N(T) < \infty).$$

When $N(T) = 0$, $T = 2\pi e$, $1 = 2|s|$, $\therefore$ $T = 4\pi e|s|$, $2e|s|\cdot\ln 2|s| = N(T)$,

N(T) = 257, 427, 532, 680, 750, 883, 980, 1051, 1191, 1245.

Lemma is proved.

Theorem. $N(T) = 2e|s|\cdot\ln 2|s|$, $(0 \leqslant N(T) < \infty,\ 0.5 \leqslant |s| < \infty)$. (B)

We can calculate the non-trivial zero points of $\zeta(s)$ for $N(T) > 0$.

Proof.

N(T)	|s|	σ + ti	
0	0.5	0.5 + 0i	← trivial zero point
1	0.66054988104	0.5 + 0.4316551232i	non-trivial zero point
2	0.79446077318	0.5 + 0.6173879818i	↓
3	0.91429551335	0.5 + 0.7654647515i	
257	14.1433251572	0.5 + 14.134484300i	
427	21.0108061411	0.5 + 21.004855980i	
532	25.0112690182	0.5 + 25.006270770i	
680	30.4407732593	0.5 + 30.436666650i	

Theorem is proved.

$\sigma + ti$ is relevant to the natural number only,

$\sigma + ti$ is irrelevant to the distributive law of primes.

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Reference literature

[1]. Gram, 15 non-trivial zero points of $\zeta(s)$, 1903.