

# The null ortho-linearity

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## Abstract

We diagnose the body of the critical strip. Thereby, we can extract the deterministic location of the critical line.

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## 1 Introduction and results

In 1896, Hadamard [Had96] proved the prime number theorem:

**Theorem 1.1.**  $\zeta(1 + it) \neq 0$ .

In this paper, we prove the Riemann hypothesis. Our mission is to isolate the ecology of the critical line.

We denote  $\ell$  as the critical line. We denote  $\mathfrak{s}$  as the critical strip. And we denote  $\mathbf{C}$  as the complex plane.

**Definition 1.2.** A spiral curve of the Riemann zeta-function is denoted by  $\lambda$ .

**Proposition 1.3.**  $\ell$  is a 0-generator.

*Proof.* Case I. Delete  $(0, 0)$  in  $\lambda$ . Then,  $\ell$  contains zeros nowhere. The strip  $0 \leq t \leq 1$  is an inverse of the critical strip  $\mathfrak{s}$ , say  $\mathfrak{s}'$ . Because  $\ell \subset \mathfrak{s}$ , then there is an inverse of  $\ell$ , say  $\ell'$ . Hence,  $\ell'$  is a line  $t = 1/2$ .

Case II. By the invertibility of  $\ell$  and  $\ell'$ , if  $\ell$  is 0-free then  $\ell'$  is dense of zeros. Then, rotating  $\mathbf{C}$  as  $-\pi$ .  $\ell'$  becomes orthogonal and contains many zeros; i.e.,  $\ell' = \ell$ .  $\square$

## References

- [Had96] J. Hadamard. Sur la distribution des zéros de la fonction  $\zeta(s)$  et ses conséquences arithmétiques ('). *Bull. Soc. Math. France*, 24:199–220, 1896.