1 Out of Time Order Correlator of $H = xp$ model

The Riemann hypothesis states that non-trivial zeros of the classical zeta function have real part equal to $1/2$. The classical zeta function defined by

$$\zeta(s) = \sum_{n=1}^{\infty} n^s \tag{1}$$

for Re $s > 1$. By the fundamental theorem of arithmatic, which is also equivalent to the Euler product over primes

$$\zeta(s) = \prod_{p} (1-p)^{-1} \tag{2}$$

where p are all the prime numbers.

Zeros of Riemann zeta function are two different types. Trivial zeros of zeta / Riemann zeta function occurs at all negetive integers (for $s = -2, -4, -6, \ldots\ldots$). For complex s ($= \sigma + it$) (with real part between zero and one) , zeta fucntion becomes nontrivial ones. And the Riemann hypothesis is for $s = \frac{1}{2} - iE$ zeta funtion becomes zero $\zeta(\frac{1}{2} - iE) = 0$. Hilbert-Pólya