



HILBERT AND PÓLYA CONJECTURE, DYNAMICAL SYSTEM, PRIME NUMBERS, BLACK HOLES, QUANTUM MECHANICS, AND THE RIEMANN HYPOTHESIS

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Abstract

In mathematics, the search for exact formulas giving all the prime numbers, certain families of prime numbers or the n -th prime number has generally proved to be vain, which has led to contenting oneself with approximate formulas [Wikipedia. https://en.wikipedia.org/wiki/Formula_for_primes]. The purpose of this article is to give a simple function to produce the list of all prime numbers. And then I give a generalization of this result and we show a link with the quantum mechanics and the attraction of black Holes. And I give a new proof of lemma 1 which gave a proof of the Riemann hypothesis [M. Sghiar, The Special Functions and the Proof of the Riemann's Hypothesis, IOSR Journal of Mathematics (IOSR-JM), Serie II, 16(3) (2020), 10-12].

Finally another excellent new proof of the Riemann hypothesis given and I deduce the proof of Hilbert Pólya's conjecture.

Keywords and phrases: prime number, number theory, distribution of prime numbers, the law of prime numbers, the Gamma function, the Mertens function, quantum mechanics, black Holes, holomorphic function, Hilbert-Polya's conjecture, the Riemann hypothesis.

