The New Prime theorem（38）

$$P,\ jP^3+k-j(j=1,\cdots,k-1)$$

Chun-Xuan Jiang
Jiangchunxuan@vip.sohu.com

Abstract

Using Jiang function we prove that there are infinitely many primes P such that each of jP^3+k-j is a prime.

Theorem . Let k be a given prime.

$$P,\ jP^3+k-j(j=1,\cdots,k-1) \qquad (1)$$

There are infinitely many primes P such that each of jP^3+k-j is a prime.

Proof we have Jiang function

$$J_2(\omega)=\prod_P[P-1-\chi(P)] \qquad (2)$$

where $\chi(P)$ is the number of solutions of congruence

$$\prod_{j=1}^{k-1}\left[jq^3+k-j\right]\equiv 0 \pmod P, q=1,\cdots,P-1 \qquad (3)$$

From (3) we have

$$J_2(\omega)\neq 0 \qquad (4)$$

We prove that there are infinitely many primes P such that each of jP^3+k-j is a prime.

We have asymptotic formula [1,2]

$$\pi_k(N,2)=\left|\left\{P\le N: jP^3+k-j=prime\right\}\right|\sim\frac{J_2(\omega)\omega^{k-1}}{(3)^{k-1}\phi^k(\omega)}\frac{N}{\log^k N} \qquad (5)$$

Remark. The prime number theory is basically to count the Jiang function $J_{n+1}(\omega)$ and Jiang prime k-tuple singular series $\sigma(J)=\frac{J_2(\omega)\omega^{k-1}}{\phi^k(\omega)}=\prod_P\left(1-\frac{1+\chi(P)}{P}\right)(1-\frac{1}{P})^{-k}$ [1,2], which can count the number of prime number. The prime distribution is not random. But Hardy prime k-tuple singular series $\sigma(H)=\prod_P\left(1-\frac{\nu(P)}{P}\right)(1-\frac{1}{P})^{-k}$ is false [3-8], which can not count the number of prime numbers.

References

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Szemerédi's theorem does not directly to the primes, because it can not count the number of primes. It is unusable. Cramér's random model can not prove prime problems. It is incorrect. The probability of $1/\log N$ of being prime is false. Assuming that the events "P is prime", "$P+2$ is prime" and "$P+4$ is prime" are independent, we conclude that P, $P+2$, $P+4$ are simultaneously prime with probability about $1/\log^3 N$. There are about $N/\log^3 N$ primes less than N. Letting $N \to \infty$ we obtain the prime conjecture, which is false. The tool of additive prime number theory is basically the Hardy-Littlewood prime tuple conjecture, but can not prove and count any prime problems[6].

Mathematicians have tried in vain to discover some order in the sequence of prime numbers but we have every reason to believe that there are some mysteries which the human mind will never penetrate.

Leonhard Euler(1707-1783)

It will be another million years, at least, before we understand the primes.

Paul Erdos(1913-1996)

Hi Mr. Jiang,

I looked at your work. Your work seems is divided into two different groups in term of opinions. I'm a mathematican and would like to discuss your work with you and hope you are interested. I personally met with Erdos several times and is wondering why your work was not noticed by him before he died?

Looking forward to hearing from you.

Thank you!

Bill Yue, Ph. D. SASPM

中国和全世界数学家联合起来不承认蒋春暄划时代的成果，只好大量写文章留给下一代数学家。素数是 deterministic 不是 random, 它的位置是确定的, 不过我们今天无法确定它的位置, 用概率理论研究素数是一种猜想。