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素数分布的台阶理论

Step theorem of prime number distribution

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摘要: 本文将正整数分成由不同的有限数字组成的无限个台阶,采用改进的埃塔筛法,即为台阶筛法,根据不同台阶中的素数个数与平均值的增加的不同关系,得到素数分布的台阶理论,即得到了不大于x的素数个数的上限,通过将平均值展开,并每运算一次后即取整的办法,得到了多次取整算法,研究了多次取整算法,与不大于x的素数个数及平均值的关系,证明了每次扩大对比筛分时,平均值的减少值与每次被筛去素数及其合数之间的相应变化规律,根据上述变化规律和素数分布的台阶理论,利用反证法,证明了不大于x的素数个数的下限.根据素数分布的上限和下限,极限存在准则和夹逼准则,证明了素数定理,根据素数分布的台阶理论和素数分布的实际证明了二个素数之间至少有多少个素数,二个素数的最大间隙和素数个数的近似计算式.
关键词: 素数定理;素数分布;台阶系数;筛法

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Abstract: This article has given to take the interger divides into different limited number to consit of the limitless stpes, by using the improved Erantosthenes sieve method,or Step Sieve Method,and according to the relationship between the number of prime numbers in different stpes and the increase of average value,the Step Theory of prime number distribution is achieved in the article,that is the upper limit of the number of prime numbers which is no greater than X is achieved.By unfolding the average value and using rounding approach after each calculation,multi-rounding algorithm can be achieved.The research on the above algorithm and the relationship has proved the rule of the variation of the decreased value of the average value and the repeatedly sieved prime numberr and its remainder when repeated expanding contrast sieve is conducted.According to the above variation regulation and the Step Theory of prime number distribution,by use of proof by contradiction,the lower limit of the number of prime numbers which are not greater than X is proved.According to the upper and lower limit of prime number distribution,limit existence principle and principle,prime number theorem is proved.According to Step Theory and the practice of prime numbers distribution is proved the number of prime numbers between two numbers,the maximal clearance between two numbers and the approximant computational formula of the number of prime numbers.
Keywords: prime number threom;prime number distribution;Step coefficient;the sieve method

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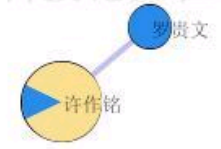
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