

## 数理方程近似求解的数论方法

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**摘要** 文中用数论网格  $\{j \in \mathbb{N} \mid 1 \leq j \leq F_{4m+1}\}$ ,  $\{j \in \mathbb{N} \mid 1 \leq j \leq F_{4m}\}$ ,  $\{j \in \mathbb{N} \mid 1 \leq j \leq F_{4m+1}\}$  建议了一个求解数学物理方程的近似方法,此处  $F_n$  表示 Fibonacci 贯.

若初始函数适当光滑,该文将给出误差估计,两个例子都表明这一方法优于经典网格方法.

**关键词** [数理方程](#), [数论方法](#), [Fibonacci 贯](#), [Cauchy 问题](#)

分类号

## THE APPROXIMATE SOLUTION OF EQUATIONS OF MATHEMATICAL PHYSICS BY NUMBER THEORETIC METHODS

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**Abstract** In this paper,we propose a method by the use of number-theometric net  $\{j \in \mathbb{N} \mid 1 \leq j \leq F_{4m+1}\}$ ,  $\{j \in \mathbb{N} \mid 1 \leq j \leq F_{4m}\}$ ,  $\{j \in \mathbb{N} \mid 1 \leq j \leq F_{4m+1}\}$  is construct the difference equations of the equations of mathematical physics,where  $F_n$  denotes the Fibouacci sequence.The error estimation will be given when the initial function satisfies some smooth conditions.We give also two examples which all show that this method is better than the classical method obtained by equi-distributed net.

**Key words** [Equations of mathematical Physics](#) [number theoretic method](#) [Fibonacci sequence](#) [Cauchy problem](#)

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