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球型平移网络逼近周期函数

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摘要　　研究了球型平移网络对周期函数的逼近问题. 文章首先将基函数${\rm e}^{\i mx}$分别表示成为两种球型平移网络.进一步, 将有关多重Fourier级数的Bochner--Riesz平均表示成为球型平移网络的形式. 在此基础上构造出了两类球型平移网络序列, 并借助于有关Bochner--Riesz平均对 L^p空间中函数的逼近结果给出了这两类球型平移网络序列在L^p 空间中的逼近阶.

关键词　　周期函数　球平移网络　Bochner--Riesz平均

分类号　41A20

Approxiamtion of Periodic Functions by Spherical Translation Networks

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Abstract In this paper, we investigate the approximation of periodic functions by translation networks formed by two kinds of spherical translations for a given periodic function. We first express the basis functions ${\rm e}^{\i mx}$ as two kinds of spherical translation network sequences respectively. Secondly, the Bochner--Riesz means of multiple Fourier series are also expressed as spherical translation network sequences, with which two kinds of spherical translation network sequences are defined, and thirdly, the orders of approxiamtion in L^p spaces for these two kinds of spherical translation sequences are respectively given by making use of the approximation order of Bochner--Riesz means in L^p spaces.

Key words　periodic function　spherical translation networks　Bochner--Riesz means

DOI:

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