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论文

一类球面带形平移网络算子的逼近

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摘要:

借助于球调和多项式的de la Vallée Poussin和构造出了单位球面 S^q 上一类带形平移网络算子, 并给出了其对 $L^p(S^q)$ 中函数一致逼近的收敛速度.

关键词: 球调和多项式 平移网络算子 逼近

分类号:

41A20, 41A25, 42C05

On Approximation by a Kind of Spherical Zonal Translation Network Operators

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Abstract:

A kind of spherical zonal translation network operators is constructed with the aid of de la Vallée Poussin means on the unit sphere S^q and its degree of approximation in $L^p(S^q)$ space is obtained.

Keywords: Spherical harmonic polynomial Translation network operator Approximation.

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参考文献:

[1] Chen Tianping, Chen Hong, Lin Ruewen. Approximation capability in $C(R^n)$ by multilayer feedforward networks and related problems. IEEE Trans Neural Networks, 1995, 6(1): 25-30

[2] Chen Tianping, Chen Hong. Approximation capability to functions of several variables, nonlinear functions, and operators by radial basis function neural networks. IEEE Trans Neural Networks, 1995, 6(4): 904-910

[3] Chen Tianping, Chen Hong. Universal approximation to nonlinear operators by neural networks with arbitrary activation functions and its application to dynamical systems. IEEE Trans Neural Networks, 1995, 6(4): 911-917

[4] 蒋传海, 陈天平. $W_m(R^n)$ 中单个函数的平移和伸缩组合的稠密性. 数学学报, 1999, 42 (3): 495-500

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[5] 蒋传海, 陈天平 Sobolev空间 $W^m_{-2}(R^d)$ 中平移不变子空间的逼近 问题. 数学年刊, 1999, 20A(4): 499-504

[6] Jiang Chuanhai. Problems of approximation in neural network. Chin Ann Math, 1998, 19A(3): 295-300 (in Chinese)

[7] 蒋传海, 郭洪斌. $L^p(R^n)$ 中的神经网络逼近和系统识别. 数学年刊, 2000, 21A(4): 417-422

[8] Cybenko G. Approximation by superpositions of a single function . Mathematics of Control, Signals and Systems, 1989, 2: 303-314

[9] Chen Tianping, Chen Hong. Denseness of radial basis functions in neural networks. Chin Ann Math. 1996, 17B: 219-226

[10] Chen Tianping, Chen Hong. Universal approximation capability of RBF neural networks with arbitrary action function. Circuits systems, Signal Processing, 1996, 15: 671-683

[11] Mhaskar H N, Micchelli C A. Approximation by superposition of sigmoidal and radial basis functions. Advanced in Applied Mathematics, 1992, 13: 350-373

[12] Mhaskar H N, Micchelli C A. Degree of approximation by neural and translation networks with single hidden layer. Advanced in Applied Math, 1995, 16: 151-183

[13] 王建力, 盛宝怀, 周颂平. 非周期神经网络及平移网络在 L^p_w 中的逼近. 数学学报, 2003, 46(1) : 65-74

[14] Mhaskar H N, Narcowich F J, Ward J D. Approximation properties of zonal function networks using scattered data on the sphere. Advances in Computational Mathematics, 1999, 11(2): 121-127

[15] Mhaskar H N, Narcowich F J, Ward D. Zonal function network frames on the sphere. Neural Networks, 2003, 16(2): 183-203

[16] 李落清. 球面函数逼近论. 湖北大学学报(自然科学版), 1995, 17(3): 261-268

[17] Wang Kunyang, Li Luoqing. Harmonic Analysis and Approximation on the Unit Sphere. Beijing/New York: Science Press, 2000

[18] Brown G, Dai Feng, Sun Yongsheng. Kolmogorov width of classes of smooth functions on the sphere S^{d-1} . Advances in Mathematics (Beijing), 2000, 31(2): 181-184

[19] Mhaskar H N, Narcowich F J, Ward J D. Spherical Marcinkiewicz Zygmund inequalities and positive quadrature. Mathematics of Computation, 2000, 70(235): 1113-1130

[20] Mhaskar H N, Narcowich F J, Ward J D. Corrigendum to "Spherical Marcinkiewicz Zygmund inequalities and positive quadrature". Mathematics of Computation, 2001, 71(237): 453-454

[21] Berens H, Li Luoqing. On the de la Vallée Poussin means on the sphere. Results in Math, 1993, 24(1): 14-26

[22] Lubinsky D S, Totik V. Best weighted polynomial approximation via Jacobi expansions. SIAM J Math Anal, 1994, 25(2): 555-570

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