 ICCES, vol.19, no.4, pp.123-123

The measurement method of node density and its application

Yufeng Nie, Yu Zhang, Yiqiang Li, Gu YT

Summary

Abstract: When the set of nodes distributed randomly is applied to approximate function, the size of the domain support of point has a great influence on the validity and accuracy of approximation. In order to study the radius of the support domain, this paper gives a new concept of the node density firstly, which not only can characterize the density level of distribution of the node and its calculation algorithm is simple, but also is easy to determine the radius of the support domain; Secondly, based on the concept of the node density, an algorithm which is used to search nodes in the support domain is given. Compared to the commonly used global search algorithm, it improves the efficiency of computation and saving the time required for the search nodes. Finally, numerical examples are presented to verify the validity of the algorithm.