

The Interior Field Method for Laplace's equation on circular domains with  
circular holes

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Abstract

The new interior field method (IFM) is proposed, which is the special case of the null field method (NFM) when the field nodes are just located on the domain boundary. The IFM is simpler than the NFM, because only one formula of interior solutions is needed, compared with multiple formulas used in the NFM. The IFM is more advantageous in simplicity and application. Numerical experiments are provided to support the analysis

Keyword : Interior field method, Null field method, circular domains, fundamental solutions, Dirichlet condition.