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有限元线法的无穷单元——无穷线的映射

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摘要：

关键词：

AN INFINITE FEMOL ELEMENT-INFINITE LINE MAPPING TECHNIQUE

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Abstract:

This paper presents an infinite element in the finite e1ement method of lines (FEMOL).The line mapping technique is used to map infinite lines to a standard local interval.The gain from this mapping is twofold: on the one hand, it standardizes the definition intervals; on the other hand, it changes the solution property in the local space so that the solution can be sought in a polynomial space with the conditions at the infinity automatically satisfied. The proposed approach is simple and efficient. With the solutions on infinite lines are obtained by solving governing ordinary differelltial equations,the overall solution is highly analytic and accurate. Some typical numerical examples are given in the paper to demonstrate the remarkable performance of the proposed method.

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