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论文

有限元大型二次规划解的一种新算法

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摘要：

关键词：

A NEW ALGORITHM OF LARGE-SCALE QUADRATIC PROGRAMMING SOLUTION FOR FINITE ELEMENT METHOD

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Abstract:

In order to efficiently solve large-scale linear and complementary equation systemdeduced by quadratic programming solution of elastoplastic finite element analysis, thispresent paper works out a new algorithm which can obviate insignificant data storeand computation, and so make the solution procedure much more efficient and practical for microcomputers. The key point of this proposed algorithm lies in elastoplasticnature only existing some local area in a studied domain. So characteristic and noncharacteristic areas should be estimated in advance, then routine computational nodesand net is designed and numbered according to the area division. This algorithm alsopresents consecutive detailed procedure for storage and run-time saving strategies oflarge-scale sparse systematic matrices, which are linear store and triangular decomposition techniques. This algorithm is checked by two test examples for its high efficiency, good numerical stability and advisability.

Keywords:

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