APCOM & ISCM
11-14th December, 2013, Singapore

Characteristics of MFS analysis for finite plate problems with a hole

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Key Words: *Source loads, Stress concentration, The method of fundamental solutions*

By using the method of fundamental solutions (MFS), a precise stress distribution can be obtained in many cases. One of the authors has been improving the source loads of the MFS program based on the collocation method to calculate the σ_{max} of the notch problem correctly. It is found that the improved MFS, which uses the equally dispersed point loads (EDPL), gives the good accuracy for some infinite problems with high stress concentration factor. To confirm the accuracy, the index on the balance of force was also proposed. Although, in case of finite problems with a hole, the stability of accuracy mainly depends on the allocation points of the source load. Therefore, in this study, we examine the proper allocation of the source loads in some finite problems including a center hole. We clarify the way of choosing the suitable allocation with various width of the plate.