

用摄动法分析准静态载荷下弹塑性结构的安定问题

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摘要 本文借助于摄动法用分段线性加载面讨论了弹塑性结构在准静态载荷下的安定问题, 给出了一个普遍适用的不等式, 由此导出了广义的米兰(Melan, 1938)安定准则以及位移与塑性变形的界, 并举例进行了说明。

关键词 [摄动法](#) [安定](#) [准静态载荷](#)

分类号

AN ANALYSIS OF THE SHAKEDOWN PROBLEM OF ELASTO-PLASTIC STRUCTURES UNDER QUASI-STATIC LOADING BY THE PERTURBATION METHOD

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Abstract

In this paper, the shakedown problem is dealt with of elastoplastic structures subjected to the quasi-statically varying loads within a given domain. The work-hardening yield surface of the material is assumed to be piecewise linear. A general inequality is presented, according to which, the generalized Melan's shakedown criterion as well as bounds on displacement and plastic strain are derived. Moreover, applications of the derived result are illustrated by a simple example.

Key words [perturbation method](#) [shakedown](#) [quasi-static loading](#)

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