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**OPTIMAL DESIGN OF PLASTIC DISKS
IN THE PLANE STRESS CONDITION**

Abstract

In the paper there is a solution of the problem on optimal from the point of view of weight, the law of distribution of thickness in the uniform rotating circle disk, when the disk is in the plastic stress condition. The necessary conditions of optimality are used in the form of the maximum principle. The initial variation problem is reduced to the non-linear boundary-value problems of the special form. In the case of piece-wise linear surface of the different regimes of yield and possible optimal conditions are discussed.