

# **OPTIMIZATION OF MATERIAL COSTS IN THE DESIGN OF COMPOSITE STRUCTURES**

Summary – The results of investigation in the area of designing of the thin, two-dimensional and linearly elastic disk made of matrix reinforced with a family of long and unidirectional fibers are presented. The problem of the material cost minimization for this structure subjected to service loading is discussed. The optimization task for this type of design problem is derived. To solve of the task, the optimization procedure based on the evolutionary algorithm is proposed. The design problem is illustrated by simple numerical example.