

# **Studies of the thermal mode of a three-phase cable line under laying conditions in polymer tubes**

*Lubkov A. N., Titkov V. V., Tukeev P. D.*

In this study a three-phase cable line heating mode has been considered. Finite-element model, taking into account conductive, convective and radiation heat exchange has been built. This model has been verified by comparing its results with results of experimental research of a considered cable line heating mode. Correction coefficients, allowing taking into account all heat exchange mechanisms in a simplified solid model, useful for a fast engineering estimations, has been found.

*Keywords: cable line, heating mode, polyethylene tube, convection, radiation, finite-element model.*