Abstract

Up to recent days the algorithms for numerical-analytical boundary elements method had been implemented with programs written in MATLAB environment language. Each program had a local character, i.e. used to solve a particular problem: calculation of beam, frame, arch, etc. Constructing matrixes in these programs was carried out "manually" therefore being time-consuming. The research was purposed onto a reasoned choice of programming language for new CAD development, allows to implement algorithm of numerical analytical boundary elements method and to create visualization tools for initial objects and calculation results. Research conducted shows that among wide variety of programming languages the most efficient one for CAD development, employing the numerical analytical boundary elements method algorithm, is the Java language. This language provides tools not only for development of calculating CAD part, but also to build the graphic interface for geometrical models construction and calculated results interpretation.

Keywords: algorithm, numerical-analytical boundary elements method, programming language, object-oriented language, code, CAD, program