

Abstracts for Bulgaria

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Kurennov D.V., Petunin A.A., Repnitskii V.B. About one algorithm of the broken line approximation and a modelling of tool path for CNC plate cutting machines

The problem of approximating two-dimensional poly-line with composite curve consisting of arc and line segments is considered. The resulting curve nodes have to coincide with source poly-line nodes. This problem arises in the development of control programs for CNC (computer numerical control) cutting machines, permitting a circular interpolation. An original algorithm is proposed minimizing the number of nodes for resulting composite curve. The algorithm is implemented in the environment of the russian CAD system T-Flex CAD using its API (Application Program Interface). The algorithm optimality is investigated. The result of test calculation along with its geometrical visualization is given.

Petunin A.A., Polishuk E.G., Chentsov A.G., Chentsov P.A., Ukolov S.S. About some types of constraints in problems of routing

Many routing problems arising in different applications, can be interpreted as a discrete optimization problem with additional restrictions. The latter include generalized travelling salesman problem (GTSP), to which task of tool routing for thermal cutting sheet CNC machines is sometimes reduced.