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## CONSTRUCTION OF THE OPTIMAL RESULT FUNCTION AND DISPERSING LINES IN TIME-OPTIMAL PROBLEMS WITH A NONCONVEX TARGET SET

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Algorithms for constructing the optimal result function are proposed for a planar time-optimal problem with a circular velocity vectogram and a nonconvex target set with smooth boundary. The algorithms work with the case where the solution of the problem has a complicated (segmented) structure of the singular set. Differentiable dependences are detected for smooth segments of the singular set, which makes it possible to consider and construct these segments as arcs of integral curves. An example of the time-optimal problem is considered, for which the optimal result function and its singular set are calculated numerically. A visualization of the results is implemented.

Keywords: time-optimal problem, dispersing line, nonconvex set, optimal trajectory, differential equation.

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