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Optimization of the algorithm for determining the Hausdorff distance for convex polygons.

(English) [Zbl 1456.90157](#)

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Summary: The paper provides a brief historical analysis of problems that use the Hausdorff distance; provides an analysis of the existing Hausdorff distance optimization elements for convex polygons; and demonstrates an optimization approach. The existing algorithm served as the basis to propose low-level optimization with super-operative memory, ensuring the finding a precise solution by a full search of the corresponding pairs of vertices and sides of polygons with exclusion of certain pairs of vertices and sides of polygons. This approach allows a significant acceleration of the process of solving the set problem.

MSC:

90C30 Nonlinear programming

90C90 Applications of mathematical programming

68U05 Computer graphics; computational geometry (digital and algorithmic aspects)

Cited in **2** Documents

Keywords:

[Hausdorff distance](#); [polygon](#); [optimization](#); [optimal control theory](#); [differential games](#); [theory of image recognition](#)

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