Mehlhorn, Kurt; Yap, Chee-Keng

Constructive Hopf's theorem: Or how to untangle closed planar curves. (English)

Zbl 0661.05024


[For the entire collection see Zbl 0639.00042.]

Let two polygons be equivalent if one can be continuously transformed into the other without causing two adjacent edges to overlap at some moment. The authors show that a quadratic number of elementary steps suffices to transform between any two equivalent polygons and this sequence of elementary steps can be described and found in linear time.

Reviewer: M.Kratko

MSC:

05C10 Planar graphs; geometric and topological aspects of graph theory
68Q25 Analysis of algorithms and problem complexity
51E99 Finite geometry and special incidence structures

Keywords:

polygons