

Multiscale contour shape analysis using the crystalline flow

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A method for a scale-space analysis of a contour figure based on a crystalline flow is proposed. A crystalline flow is a special family of evolving polygons, and is a discrete version of a curvature flow. Based on the crystalline flow of a given contour, the proposed method makes a scale-space representation of the given contour, and extracts several sets of dominant facets. By changing the shape of the Wulff shape that plays a role of a unit circle for computing the nonlocal curvature of each facet, the method analyzes the contour shape anisotropically.