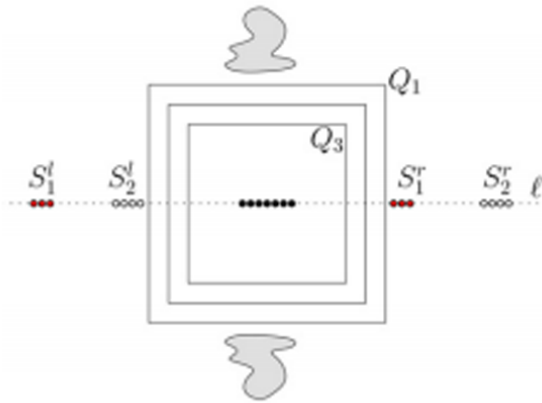


Higher-Order Voronoi Diagrams on Triangulated Surfaces

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We study the complexity of higher-order Voronoi diagrams on triangulated surfaces under the geodesic distance, when the sites may be polygonal domains of constant complexity. More precisely, we show that on a surface defined by n triangles the sum of the combinatorial complexities of the order- j Voronoi diagrams of m sites, for $j=1, \dots, k$, is $O(k^2 n^2 k^2 m k n m)$, which is asymptotically tight in the worst case.