Higher-Order Voronoi Diagrams on Triangulated Surfaces

Fort, Marta

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 $j=1, \ldots, k$, is $O(k^2 n^2 k^2 m k^m)$, which is asymptotically tight in the worst case.