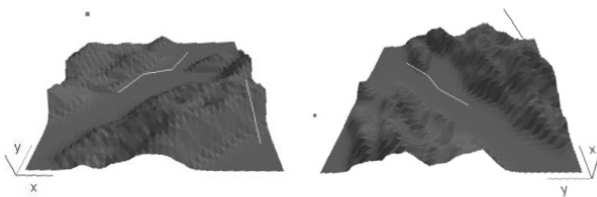


# Multi-visibility maps of triangulated terrains

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Visibility computation on terrain models is an important research topic with many applications in *Geographical Information Systems*. A multi-visibility map is the subdivision of the domain of a terrain into regions that, according to different criteria, encodes the visibility with respect to a set of view elements. We present an approach for visualising approximated multi-visibility maps of a triangulated terrain corresponding to a set of view elements by using graphics hardware. Our method supports heterogeneous sets of view elements containing points, segments, polygonal chains and polygons and works for weak and

strong visibility. Moreover, we are also able to efficiently solve approximated point and polygonal region multi-visibility queries. To illustrate the usefulness of our approach we present results obtained with an implementation of the proposed algorithms.